

DOCUMENT RESUME

ED 130 463

EC 091 572

AUTHOR George, Pamela; And Others
TITLE A Study of Successful Outcomes in the Categorical Learning Disabilities Programs: 1975.
INSTITUTION North Carolina Univ., Chapel Hill. Frank Porter Graham Center.
SPONS AGENCY North Carolina State Dept. of Public Instruction, Raleigh.
PUB DATE 75
NOTE 144p.
EDRS PRICE MF-\$0.83 HC-\$7.35 Plus Postage.
DESCRIPTORS Elementary Secondary Education; Exceptional Child Research; *Failure Factors; Individual Characteristics; Instructional Materials; *Learning Disabilities; *Program Evaluation; *Student Evaluation; *Success Factors; *Teacher Attitudes; Teaching Methods
IDENTIFIERS *North Carolina

ABSTRACT

Presented are the results of a second study of North Carolina's Learning Disabilities Program in which 44 teachers were interviewed to obtain information on the factors which contributed to the educational outcome of 46 learning disabled students (6-13 years old). Section I provides a description of the program during the second year of operation and compares it to the program's first year in terms of the program as a whole, the teachers, and the children. Reviewed in sections II and III are the methods and results of the analyses of student characteristics, teaching methods, and instructional materials. Among the conclusions listed in section IV are that children who were perceived as successful did not differ from those who were perceived as unsuccessful in either chronological age, ability level, or academic attainment when they entered the program; that teachers perceived that 26% of the successful outcome group were misclassified, of which the majority would have more appropriately been placed in a reading program; and that teachers viewed their teaching methods as the biggest contributor to success for the successful outcome group. Four questions to be explored in future research are proposed which deal with such areas as the impact of special education services and the relative cost/benefits of alternative delivery systems. Among appended materials are a sample screening questionnaire, a list of the participating programs, an outline of methods and materials used with most successful cases, and the 1974 executive summary. (SBH)

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT
OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY

A STUDY OF SUCCESSFUL OUTCOMES IN THE
CATEGORICAL LEARNING DISABILITIES PROGRAMS

1975

Pamela George, Loretta Golden, Anne Borders-Patterson
and James D. McKinney

Frank Porter Graham Child Development Center
University of North Carolina
Chapel Hill, North Carolina

ACKNOWLEDGEMENTS

The research reported herein was performed pursuant to a contract with the North Carolina State Department of Public Instruction. The conclusions and opinions stated are those of the authors and, therefore, do not necessarily represent the state agency's official position or policy.

The research staff for the 1975 Learning Disabilities study is indebted to the participating Categorical Learning Disabilities teachers for their cooperation and valuable time spent in gathering the information for this investigation. Dr. Leon Silber and his staff at the Division of Exceptional Children in the State Department of Public Instruction deserve special appreciation for their continuous support and guidance. Additionally we wish to thank the county Directors of Special Education for their cooperation in our efforts.

A supporting cast of people at the Frank Porter Graham Child Development Center provided the assistance necessary to produce this manuscript. Ron Haskins helped with the computer runs; Sylvia Mewborn and Beverly Rosser did the typing. To them, the investigators are especially grateful. Finally, thanks are extended to Dr. James J. Gallagher, Director of the Frank Porter Graham Center, for his leadership in the conceptualization of this project and his valuable advice throughout.

TABLE OF CONTENTS

	Page
Introduction	1
Section I: Description of the Categorical Learning Disabilities Program 1974-1975	4
The Program	4
The Teachers	7
The Children	10
Section II: Analysis of Successful and Unsuccessful Outcomes	12
Method and Procedure	12
Study Findings	16
Characteristics of Students	16
Characteristics of Remedial Programs	27
Section III: Analysis of Methods and Materials	49
Methods and Materials Used	49
Sharing Materials and Methods	64
Comparison of Program Approaches	65
Section IV: Summary and Conclusions	69
Section V: Prospectus for Future Evaluation	74

	Page
Appendix A: Screening Questionnaire	78
Appendix B. Participating Programs	81
Appendix C. Interview Questionnaire	83
Appendix D. Table of Diagnostic Assessments	97
Appendix E. Disability Severity Index	98
Appendix F. Methods and Materials Used with Most Successful Cases	107
Appendix G. 1974 Executive Summary	124

LIST OF TABLES

		Page
Section II:	Analysis of Successful and Unsuccessful Outcomes	
Table 1:	Characteristics of the Study Sample	17
Table 2:	Characteristics of the Groups at the Beginning of the Remedial Program	19
Table 3:	Average Severity Ratings for the Groups . .	23
Table 4:	Frequency of Cases in Each Category of Severity	24
Table 5:	Multivariate Analysis of Variance on Type of Disability	26
Table 6:	Primary Referrers	29
Table 7:	Numbers of Personnel Involved in Referral Process	29
Table 8:	Referral Information Available to Teachers	31
Table 9:	Main Approach for Treating Child's Problem	38
Table 10:	Main Reading Approach	38
Table 11:	Learning Disabilities Class Organization .	40
Table 12:	Frequency of Involvement of Other Personnel in Treatment Program	42
Table 13:	Nature of Involvement of Regular Teacher in Program	42
Table 14:	Nature of Involvement of Parents in Program	44
Table 15:	Average Ranking of Program Components . . .	47

LIST OF TABLES

	Page
Section III:	Analysis of Methods and Materials
Table 16:	Methods and Materials Used with Most Successful and Least Successful Cases . . . 50
Table 17:	Methods Mentioned by Two or More Teachers 56
Table 18:	Usefulness of Materials 63

INTRODUCTION

In 1973 the North Carolina General Assembly passed enabling legislation which established fifty new teaching positions to provide special education services for children with learning disabilities. Also the General Assembly appropriated funds for (1) evaluation of the state Categorical Learning Disabilities program, (2) three regional centers to provide special training in Learning Disabilities, (3) three Regional Consultants to aid local school systems in planning Learning Disabilities programs, (4) the recommendation and purchase of special materials, and (5) a teacher's certification program in Learning Disabilities.

The term "Learning Disabilities" was first used in the early 1960s to describe a variety of disorders related to language, reading, and social communications. The National Advisory Committee to the Bureau of Education for the Handicapped has adopted the following definition which has now become a guideline for both federal and state legislation:

Children with special learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage.

During the 1973-74 school year the Division of Exceptional Children of North Carolina State Department of Public Instruction established an evaluation plan for collecting extensive data on the Categorical Learning Disabilities program in North Carolina. The first study in this series was conducted by the Frank Porter Graham Child Development Center in 1974. This initial study provided a comprehensive portrait of the program as it existed in an early developmental phase. Information was provided regarding the characteristics of the students who were referred, the teachers and their training, and the content of the programs at the local school level. A copy of the Executive Summary of this report has been provided in the Appendix.

The present report contains the results of a second study of North Carolina's Categorical Learning Disabilities Program which was designed to identify those factors which contributed to a successful educational outcome as the result of program participation. It was anticipated that a careful analysis of the major differences between students who were most responsive to the program and those who were least responsive would provide useful information in modifying program practices so as to better meet the needs of the learning disabled children who were being served within the state.

More specifically, the following questions were explored:

1. Do children who show the greatest improvement in the Categorical Learning Disabilities Program differ from those who show the least improvement in the nature and severity of their educational problem?

2. What are the demographic and academic characteristics of children who have a successful experience in the Learning Disabilities program compared to those who do not have a successful experience?
3. What are the teachers' judgments on the reasons for differential success in the program?
4. Are there certain methods and materials which are particularly useful in the treatment of successful cases, and/or what program modifications might be more useful in unsuccessful cases?
5. What are the most pressing research and evaluation needs in the state Categorical Learning Disabilities program?

The report is divided into five sections. Section I provides a description of the Categorical Learning Disabilities program during the second year of operation compared to the first year of funding. Section II describes the methods and results from the analysis of successful and unsuccessful cases. Section III includes the analysis of materials and methods used with successful and unsuccessful cases. The summary and conclusions of the study are presented in Section IV and a prospectus for needed research and evaluation is given in Section V.

SECTION I: DESCRIPTION OF THE CATEGORICAL LEARNING DISABILITIES
PROGRAM--1974-1975

THE PROGRAM

In the 1974-75 school year 89 categorical learning disabilities teaching allotments were implemented in the state of North Carolina. Of those, 23 were chosen to participate in the 1975 study. The twenty-three programs looked at in depth in this study provided services to 533 children--412 males and 121 females. Consistent with last year's finding and, in fact, consistent with the general tendency nationwide, there were four times as many boys as girls in the program this year, and four times as many white children as black children.

Twenty-two of the twenty-three learning disability specialists who were interviewed described their teaching formats as a resource room. Most said they operated on an itinerant basis, using the resource room format. One specialist claimed a self-contained classroom. This study focused on learning disability teachers who gave special lessons to learning disabled children at regular intervals in the resource room. However, for the major portion of their time, the children remained in their regularly assigned classrooms. The twenty-three specialists provided instruction for an average of 23.2 children, a number which falls just under the suggested state limit of 25 children per classroom. These breakdowns repeated the demographic findings in last year's study.

Based on the reported grade levels of the children whom these resource teachers nominated to be either in the successful or unsuccessful group, the 1974-75 learning disabilities program focused again this year on the elementary grades. Of the 46 children

in the two groups, nineteen were in grades Kindergarten through three while twice as many were in the fourth through sixth grades.

Assistance in the classrooms for learning disabled children was provided largely by student interns and aides. (About an equal number of aides were hired as those who volunteered.) It should be noted, however, that assistance in classrooms was far more infrequent than frequent according to the specialists interviewed. For example, only nine of the twenty-three had any assistance and five of the nine were fortunate to have two assistants; the remaining four teachers had one assistant each. Among the nine learning disability teachers who reported having classroom assistants, six had either a volunteer or hired aide, five had a student intern, and only one was assisted by a parent. Thus, in two years of operation, the categorical program has had few aides or other assistants in the classroom, although there was more classroom assistance than in 1973-1974.

Reading and speech therapy were mentioned most frequently as the special services available in the schools to children with learning disabilities and to other children. Twelve of the resource teachers interviewed said they work in schools where counselors are also available to all children. Other special services cited by the interviewer as being available in the schools were classes for educably mentally retarded pupils--available in most schools, and classes for emotionally disturbed and trainably retarded pupils--notably less frequently available. Although school psychologists are not available directly in the

schools, fifteen of the twenty-three learning disability specialists reported having used the services of a psychologist. This is a marked improvement over what was reported last year by the teachers of children with learning disabilities.

In the 1973-74 study of the categorical program, the relationship between regular classroom teachers and learning disabilities teachers surfaced as an issue of grave concern to the specialists. Those interviewed asserted that regular classroom teachers' support, knowledge, and understanding of what learning disabilities is all about "must be the backbone of the program." However, the 1975 study reporting "The regular teacher views responsibility for remediation as mostly the learning disabilities teacher's" and reporting no systematic involvement of the regular teacher in the treatment program might indicate no real progress in this area.

Another area noted in the previous study as causing a great deal of hardship in the categorical program was the procedures for referring, evaluating, and placing children in the learning disabilities classes. Late funding cycles, excruciating time pressures, and general woes of starting up any program were some of the reasons given for the confusion and hardship the teachers experienced last year. However, now in its second year of operation, the situation seems to have changed very little at all. From all indications (stemming primarily from interviews with the twenty-three resource specialists) again this year, regular classroom teachers almost solely refer children and learning disabilities teachers almost solely evaluate the children and make placement decisions. The multi-disciplinary team of professionals suggested

by the state guidelines does not seem to be in operation. Interestingly, however, in the two situations where such teams were involved in the referral-evaluation-placement process, the learning disability specialists rated this procedure as the highest among various aspects of the overall program that made a difference throughout the school year.

THE TEACHERS

Several striking contrasts can be drawn between the twenty-three categorical learning disabilities teachers studied in depth in the 1974-75 school year and the forty-eight who were involved in the 1973-74 study. First, when asked whether or not they had received special training in learning disabilities, this year 21 or 91% responded affirmatively as compared to last year when only 25% said they had previous learning disabilities training.

Second, of the twenty-one teachers trained in the area of learning disabilities, 57% indicated that their preparation had been on the graduate level, 29% reported receiving graduate training in other areas of special education, and 14% said they had been trained at the undergraduate level in learning disabilities or special education. This is a noteworthy change. Previously, informal experiences or training (primarily in-service workshops) was reported to be the source of preparation in learning disabilities for those working as specialists in this field.

Much confusion was expressed in the 1973-74 school year around the issue of meeting the state's deadline of 1977 for certification in learning disabilities. Only 6% of the teachers

interviewed last year were certified. A major contrast between the two years is the increase in the percentage of teachers holding certification in the learning disabilities field. Forty-three percent of those interviewed this year indicated that they were certified in the field. Though the 1975 study does not represent a random sample, this does indicate that North Carolina seems to have made progress in preparing teachers for learning disabled children. Generally, teachers of children who are learning disabled are a well educated group. Master's degrees were held by 40% of those who have participated in the study of the categorical program over the two-year period.

Age was the final difference noted between last year's categorical teacher population and those who participated in the study this year. For the latter group, the age span tended to be somewhat older with a majority falling between 22 and 32 years old. On the other hand, ages ranged from about 21 to 26 years in over half of the earlier population.

The following list provides a further description of the similarities and differences between teachers interviewed in both studies:

	1973-74		1974-75	
SEX				
Female	43	96%	22	96%
Male	3	4%	1	4%
RACE				
Black	4	8%	2	8%
White	42	91%	21	91%
EDUCATION				
Bachelors	27	59%	14	61%
Masters	19	41%	9	39%
SPECIALIZATION*				
Elementary Education	16	35%	2	8%
Special Education	12	26%	8	35%
Learning Disabilities	2	4%	13	57%
Other	16	35%		
N. C. CERTIFICATION				
Yes	3	4%	10	43%
No	43	96%	13	57%

*Includes undergraduate and graduate training programs.

THE CHILDREN

As was pointed out earlier, there were four times as many boys as girls in the categorical learning disabilities program again this year, and four times as many white children as black ones. Looking at a total of 46 children, 23 nominated by the learning disability specialists as the most successful ones and 23 considered to be least successful, the average grade level was 3.8 and 4.4 for the two groups, respectively. The children ranged in ages from 6 to 13 years; however, 70% of them were between nine and twelve years old.

Intelligence tests, achievement and academic histories provided the data for diagnosing the child as learning disabled. Although a few more psychological tests were given this year than in the past, the inadequate supply of school psychologists still remained a concern of the categorical teachers who had the responsibility of screening and evaluating the children.

IQ ranges were somewhat narrower for the two groups of children with learning disabilities who were involved in the 1974-75 study: 67-116 for those judged to be unsuccessful and 70-112 for those selected as most successful. Last year the IQ range was 70-155. The most noted change here was in the upper limit IQ. Despite the change in IQ ranges this year, the mean IQ score for both groups fell right on and somewhat above the minimum IQ score of 90 required by state guidelines for placement in the learning disabilities program. Nevertheless, based on the lower limit scores noted above for both school years, slow learners and borderline retarded children were still included in the categorical learning disabilities program.

A more detailed discussion of the children involved in the 1974-75 study follows in the analysis of the successful and unsuccessful cases.

SECTION II: ANALYSIS OF SUCCESSFUL AND UNSUCCESSFUL OUTCOMES

METHOD AND PROCEDURE

In order to provide a comparative analysis of successful and unsuccessful cases in the Categorical Learning Disabilities program, a subject selection procedure was developed based on four criteria for evaluating educational outcomes:

Academic Success. Has the student shown significant gains in school performance in one or more subject areas (e.g., reading, math, etc.) which can be documented by either test scores or relative standing in regular class?

Basic Skills Success. Has the student made progress in one or more of the basic skills (e.g., visual or auditory perception, coordination, visual or auditory memory, sequencing, etc.) which can be documented by either test scores or samples of the student's work?

Social Adjustment Success. Has the student made progress in working with others (e.g., more cooperative in the classroom, shows less hostility toward peers or the teacher, etc.) which can be documented by your observations or reports from the regular classroom teacher?

Personal Competencies Success. Has the student shown significant gains in the area of personal competencies (e.g., works more independently or pays better attention to tasks, shows more confidence and self-esteem, etc.) that can be documented by your observations or reports from the regular classroom teacher or the child himself?

Initial Screening. Each of the 44 Categorical Learning Disabilities Teachers in North Carolina where programs were in the second year of operation were sent our initial screening questionnaire. At that time they were asked to nominate five children for whom the program had been the most successful and five children for whom the program had been the least successful by using the criteria listed above. The teacher was then asked to evaluate each child in each category and to select one child for whom the program had been the most successful and one child for whom the program had been the least successful. Also, additional demographic data was collected on the teachers and their classes. The screening questionnaire and accompanying instructions to the teachers are provided in Appendix A.

Selection of the Sample. The screening questionnaire served to inform the investigators of the availability of records on each child who was nominated and provided the base population from which to choose the sample. A total of 34 questionnaires were returned. When questionnaires were not returned the teachers involved were new to the program and felt that they did not have sufficient information and/or experience to make accurate assessments.

Based on the information obtained from the initial screening questionnaire, 23 Categorical Learning Disabilities programs were chosen for further study. This number represented the maximum number of programs that could be scheduled for on-site interviews in the last eight weeks of the school year. To insure consistency only elementary school programs which followed a resource room model were chosen. Also, programs were selected which indicated that sufficient

data was available to compare the children who were identified as the most successful and least successful cases. With one exception (Region IV), each of the educational districts in the state was represented. A listing of the teachers who participated in the study and the schools they represented is given in Appendix B. The location of each learning disabilities class that was studied is shown in Figure 1.

Interview Procedure. The on-site interviews were performed by two investigators who divided the task according to educational areas. An average of two and a half hours were allowed for the structured interview, of which one-half of the time was spent questioning the Categorical Learning Disabilities teacher about the child for whom the program had been the most successful, and the remaining half questioning the teacher about the child for whom the program had been the least successful. The same interview questionnaire was used to gather data on both children and the nature of their remedial program.

The interview questionnaire had four major areas that attempted to target four parts of the individual child's program. They were the Referral Section, the Diagnostic Section, the Methods and Materials Section, and the Evaluation Section. A copy of the interview questionnaire is provided in Appendix C.

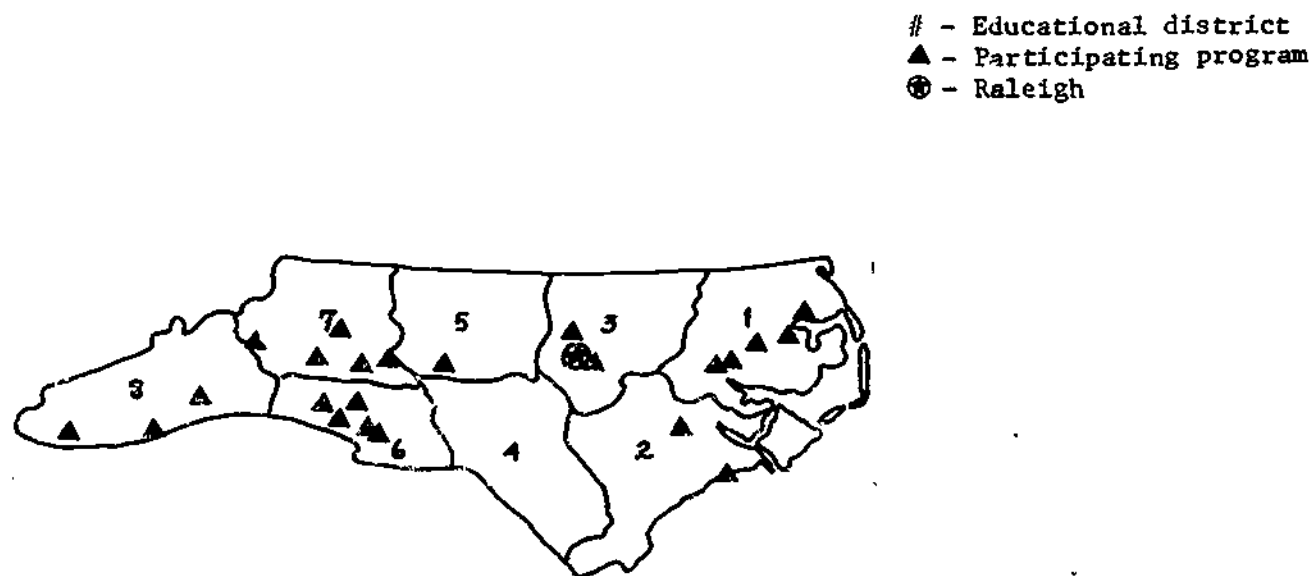


FIGURE 1. PARTICIPATING PROGRAMS IN THE CATEGORICAL LEARNING DISABILITIES STUDY 1975

STUDY FINDINGS

Characteristics of Students

In order to compare the academic and behavioral characteristics of children in the successful and unsuccessful groups, the learning disabilities teachers were asked to review their referral and diagnostic records and to provide data on the child's ability level and academic achievement. Also, each teacher was asked to complete a rating scale designed to assess the child's basic skills and learning style at the time of referral. A listing of the diagnostic instruments which were used and their frequency of use is given in Appendix D.

Study Sample. Table 1 shows the distribution of students in the successful and unsuccessful groups by sex, race, and grade level. As Table 1 shows the total sample was composed of 38 boys and 8 girls. Also, the sample was composed of 38 white children and 8 black children. Based on previous findings¹ for the North Carolina Categorical Learning Disabilities Program, the distribution by sex was representative of the children who are served by this program. However, black children were underrepresented in the present sample based on the figures for the previous school year. As Table 1 shows, proportionally more children from the fifth grade were classified as successful, and proportionally more from the fourth grade were classified as unsuccessful.

¹Borders-Patterson, Huff, Mengel and Gallagher (1974).

TABLE 1

CHARACTERISTICS OF THE STUDY SAMPLE					
		Successful		Unsuccessful	
		N	%	N	%
Sex	M	18	78%	20	87%
	F	5	22%	3	13%
Race	W	20	87%	18	78%
	B	3	13%	5	22%
Grade	1	1	4%	2	9%
	2	3	13%	3	13%
	3	5	22%	4	17%
	4	2	9%	7	30%
	5	4	17%	2	9%
	6	8	35%	5	22%

Age and Ability Level. Table 2 shows the average chronological age and IQ scores for each group at the time of referral to the Learning Disabilities program. The average chronological age for the successful group was 112.17 months and that for the unsuccessful group was 107.34 months. The average IQ for the successful group was 95.52 and that for the unsuccessful group was 90.60. A 2 (group) x 3 (grade) analysis of variance on each variable did not show significant differences between the two groups in either age or ability level.

Initial Achievement Level. Table 2 also shows the average grade equivalent scores for the successful and unsuccessful cases on the standardized tests that were administered. In order to estimate each child's overall achievement level, the various subtest scores that were reported were summed and divided by the number of subtests to derive an average total achievement score. Thus, although the number and kind of subtests varied from case to case, it was possible to obtain an estimate of overall achievement for 20 subjects who were classified as successful and for 19 subjects who were classified as unsuccessful. The average grade equivalent score for the former group was 2.72 and that for the latter was 2.27. Although the analysis of variance on these scores showed an expected grade level effect ($F = 10.29$, $df = 2/33$, $p < .0006$), no significant differences were obtained between the successful and unsuccessful groups in initial achievement level.

In order to provide a more unbiased estimate of each child's academic status, the average grade equivalent score was divided by

TABLE 2

CHARACTERISTICS OF SUCCESSFUL AND UNSUCCESSFUL GROUPS AT THE BEGINNING OF THE REMEDIAL PROGRAM						
Group Grades	Successful			Unsuccessful		
	1-2	3-4	5-6	1-2	3-4	5-6
N	4	7	12	5	11	7
CA (months)	81.00	100.28	129.50	91.40	103.45	124.85
IQ	93.75	100.85	93.00	96.60	86.00	93.57
Achievement Total	1.13	2.21	3.43	.85	2.02	3.35
GEQ	56.66	65.16	60.54	47.50	55.12	57.57

the child's current age-grade expectancy and multiplied by 100. Thus, the derived score reflected the child's entering achievement level in relation to that one would expect given his age level. The analysis of variance on these scores also failed to show any significant differences between the successful and unsuccessful groups.

Severity of Learning Disability. In order to obtain a measure of the number, kind, and severity of each child's disabilities, the learning disabilities teachers were asked to complete a 48-item rating scale. The Learning Disabilities Rating Scale was developed as part of Project MELD (Models for Educating the Learning Disabled), an ESEA, Title III project in the Durham County Schools. The scale was designed to assist the regular classroom teacher in making referrals for special services and provides ratings on a 5-point continuum for each of the following 11 areas:

1. Physical Development--hearing, visual acuity, eye control, speech, and muscle control.
2. Self Help--using utensils, eating, dressing, and toilet training.
3. Motor Development--coordination, balance, and manual dexterity.
4. Visual Perception--discrimination, figure-ground, and visual/motor integration.
5. Auditory Perception--discrimination, following direction, comprehension and receptive vocabulary.

6. Memory--retention of auditory information, recall of non-meaningful and meaningful visual information, and retention of words.
7. Spoken Language--sentence structure, expressive vocabulary, relating experiences, ideational fluency.
8. Conceptual Skills--abstractions, creativity, logical thinking, conceptual tempo.
9. Orientation--judging time, spatial orientation, judging relationships, and learning directions.
10. Personal/Social Behavior--cooperation, attention, coping skills, social acceptance, responsibility, work attitude, tactfulness, and flexibility.
11. Specific Achievement--reading, writing, spelling, and arithmetic.

Following completion of the Learning Disabilities Rating Scale, the teacher was asked to describe the child's disability in each area where a need for remediation was evident as either mild, moderate, severe, or profound in severity. In each case this judgment was based on (a) the number of specified deficits displayed in that area, (b) the extent which the deficits in a given area contributed to developmental delay, and (c) the amount of time devoted to remedial work in that area. In addition to the severity ratings for each of the 11 subscales, a general severity index was computed by multiplying the number of disabilities by the average severity rating. A complete description of the Learning Disabilities Rating Scale and Severity Index can be found in Appendix E.

The average ratings for each group on the Learning Disabilities Severity Scale are given in Table 3. In order to test for significant differences between groups and among grade levels, a 2 (group) x 3 (grade) multivariate analysis of variance was performed on the 11 subscales which were rated. This analysis yielded a significant multivariate F value ($F = 2.34$, $df = 11/30$, $p < .03$) for groups. Significant main effects were not found for grades or for the group x grade interaction. Therefore, the successful cases were rated as less disabled than were the unsuccessful cases.

These differences were apparent in both the number of disabilities that were identified and in the average severity of the disabilities that were rated. Children who were classified as successful displayed an average of 5.91 specific disabilities compared to 7.83 for those who were classified as unsuccessful ($F = 9.12$, $p < .004$). Children who were described as successful earned a mean severity rating of 2.15 compared to 2.83 for those who were described as unsuccessful ($F = 14.55$, $p < .007$). Similarly, children in the successful group showed a significantly ($F = 11.39$, $p < .002$) lower learning disabilities severity index (13.85) compared to those in the unsuccessful group (22.94).

Table 4 shows the percentage of cases in the study sample in each category of severity. These figures generally support the impressions of the previous survey of the Categorical Learning Disabilities Program in that very few children with severe or profound disabilities were served. Rather the public school program appears to be oriented toward the remediation of mild to moderate

TABLE 3

AVERAGE SEVERITY RATINGS FOR SUCCESSFUL AND UNSUCCESSFUL GROUPS						
Group	Successful			Unsuccessful		
Grade	1-2	3-4	5-6	1-2	3-4	5-6
N	4	7	12	5	11	7
Physical Development	2.00	1.85	1.75	2.40	2.27	1.71
Self Help	1.00	1.14	1.16	1.00	1.18	1.28
Motor Development	1.75	1.42	1.50	2.40	2.63	1.85
Visual Perception	2.25	3.00	2.08	3.40	3.09	2.71
Auditory Perception	3.00	1.57	2.41	4.60	3.18	3.00
Memory	2.75	1.71	2.41	4.20	2.72	3.42
Spoken Language	3.00	1.71	1.83	2.80	1.92	2.00
Conceptual Skills	3.00	2.42	2.33	3.20	2.54	3.71
Orientation	1.25	1.71	1.66	3.00	2.36	2.14
Personal/Social	2.75	2.51	2.41	3.20	3.18	3.71
Specific Achievement	3.75	3.57	3.66	4.00	3.90	4.00
Total Number Disabilities	6.25	5.42	6.08	8.40	7.72	7.57
Total Disability Ratings	26.50	22.71	23.25	33.80	29.72	31.42
Severity Index	15.49	12.29	14.21	26.48	21.56	22.60

TABLE 4

FREQUENCY OF CASES IN EACH CATEGORY OF SEVERITY				
Group Frequency	Successful		Unsuccessful	
	N	%	N	%
Mild	15	65%	8	35%
Moderate	8	35%	11	48%
Severe	0	-	4	17%
Profound	0	-	0	-

learning problems, and this orientation seems to contribute to the probability of success. Thus, those children who seemed to benefit most from the program displayed highly specific deficits in academic skills and little or no evidence of general developmental delay.

In order to determine whether the successful and unsuccessful groups differed in the nature or pattern of disability, the average ratings on each of the 11 subscales of the Learning Disabilities Severity Scale were examined. Table 5 shows that children in the successful group were rated as having less severe disabilities in five areas compared to those in the unsuccessful group. Significant differences between the two groups were found for motor development, auditory perception, memory, orientation, and personal-social behavior. The mean difference between the two groups approached significance in the areas of visual perception and specific achievement.

The standardized discriminant function weights for each scale reported in Table 5 provide a measure of the extent to which that area discriminated between the successful and unsuccessful groups. Inspection of these weights indicated that differences in auditory perception, motor development, and memory were relatively more predicative of successful outcome than were differences in orientation and personal-social adjustment. Accordingly, children who displayed more severe deficits in processing auditory information, coordinating motor activity, or retaining information were less likely to benefit from remediation than those who were more skilled in these areas.

TABLE 5

MULTIVARIATE ANALYSIS OF VARIANCE ON TYPE OF DISABILITY			
Statistic	F	p	SDFC*
Physical Development	0.76	.388	-.11
Self Help	0.09	.765	-.06
Motor Development	4.75	.035	.51
Visual Perception	3.19	.081	.25
Auditory Perception	11.85	.001	.62
Memory	9.24	.004	.44
Spoken Language	0.11	.738	-.84
Conceptual Skills	2.65	.111	.03
Orientation	5.58	.023	.29
Personal/Social	4.53	.039	.16
Specific Achievement	3.03	.089	.07

*Note SDFC is the Standardized Discriminant Function Coefficient for each variable.

Academic Gains. Pre and post-test achievement data were available for 13 children in the successful group and 11 children in the unsuccessful group. The average gain reported for students in the successful group was 1.13 years compared to .39 years for students in the unsuccessful group. A t-test for related samples in each case indicated that children who were classified as successful made significant progress ($t = 2.47, p < .02$) over the school year, whereas those who were classified as unsuccessful had failed to show significant gains.

Characteristics of Remedial Programs

In addition to the data that was collected on students in the successful and unsuccessful groups, each teacher was asked questions about the nature of her instructional program for the child who benefited most and for the child who benefited least from learning disabilities services. The structured interview was designed to provide an analysis of four aspects of the learning disabilities program:

1. The Referral System--how the children were selected and placed in the learning disabilities program.
2. Diagnostic Activities--how the student's educational needs were identified.
3. Treatment Program--the nature of instructional activities designed to meet the student's needs.
4. Progress Evaluation--how the student's progress was assessed as the result of the program.

The Referral System. In comparing the referral process for the two groups, the investigators examined two aspects of that process--who was involved in the referral and what information did that process provide the learning disabilities teacher.

The involvement of school personnel, support services personnel, and parents was similar for both groups. Additionally, the findings in this regard were similar to those of the 1974 Categorical Learning Disabilities Study. The regular classroom teachers were the primary referrers and remained the most involved of all school personnel in both groups. Primary referrers for both groups are shown in Table 6. Numbers and percentages of other personnel involved in the referral process are indicated in Table 7.

The learning disabilities teachers interviewed indicated that in only two cases was there an operating multidisciplinary team to act on referrals and assist in the diagnoses of student needs. In the 19 cases where a psychologist or outside diagnostician was used, the service was limited to intelligence testing. Many teachers complained of the dearth of coordinated efforts in placing these children, and felt that more appropriate diagnosis would be carried out if the referral process was more of a team concern. The two teachers working with such teams rated the team's contribution to the successful outcome as highest of any component of the program.

The other aspect of the referral process considered was the information it provided the learning disabilities teacher. Four types of information were standard: psychological data, IQ score, achievement scores, and teacher reports. The major questions here were: "What kinds of information were used to make a placement

TABLE 6

PRIMARY REFERRERS	Successful Outcome (frequency) (%)	Unsuccessful Outcome (frequency) (%)
1974-1975 Regular Class- room Teacher	8 → 18 78%	15 → 18 78%
1973-1974 Regular Class- room Teacher	10 → 18 78%	3 → 18 78%
School Counselor	1 4%	2 9%
School Principal	1 4%	0
Parents	2 9%	2 9%
Other (School psychologist, physician, D.E.C. personnel, etc.)	1 4%	1 4%

TABLE 7

NUMBERS AND PERCENTAGES OF PERSONNEL INVOLVED IN REFERRAL PROCESS			
Personnel	Successful Outcome # (In % of cases)	Unsuccessful Outcome # (In % of cases)	
1974-1975 Regular Class- room Teacher	12 57%	14 61%	
1973-1974 Regular Class- room Teacher	10 43%	9 39%	
School Counselor	4 17%	2 9%	
School Principal	10 43%	7 30%	
Parents	7 30%	3 13%	
Other (School psychologist physician, D.E.C. personnel, etc.)	<u>11</u> 48%	<u>9</u> 39%	
Totals	54	44	

decision concerning this child?", and "Given this information, what further diagnosis was necessary?" Though the first six weeks of the school year was, in most cases, designated as the time of information gathering on these children, many of the teachers indicated that much of this data arrived too late to be helpful in the actual placement decision. Table 8 provides an overview of the type of information available to the learning disabilities teacher to support the placement decision.

Psychological Data. Psychological data that was used most often by the teachers was obtained by the school counselors or themselves and involved measures of a perceptual or psycholinguistic nature such as the ITPA, Slingerland Language Disabilities, Bender Gestalt, Frostig, or Mann-Suiter and case-study type psychological work-ups done by a clinic in eleven cases.

In 75% of the cases where psychological data was collected, the teachers felt that this information was helpful in planning a program for the child. Positive responses were noted by the investigators. In eleven cases, teachers felt the ITPA was indispensable and indicated specific areas where they should focus. Also, those teachers who had received reports from Developmental Evaluation Clinics hailed them as their best support for referral and diagnostic decisions. In 25% of the cases teachers indicated that psychological data was not beneficial and gave the following reasons:

TABLE 8

REFERRAL INFORMATION AVAILABLE TO TEACHERS				
Data	Successful Outcome # (In % of cases)		Unsuccessful Outcome # (In % of cases)	
Psychological data	13	56%	14	61%
IQ scores	23	100%	23	100%
Achievement scores	20	87%	21	91%
Teacher reports	19	83%	18	78%

- The results arrived too late to be helpful in making placement decisions or diagnostic decisions.
- The clinic evaluations often depended on nonforthcoming parent support to refer, transport or accompany child.
- School or clinic personnel spent too much time doing achievement assessments that teachers can do.
- Test scores were often sent in their raw form with no commentary on their meaning or application.

No notable differences were found between the two groups on the availability, types of, or usefulness of psychological data.

IQ Scores. In 76% of the cases the WISC was administered at the time of referral to each child. In cases where psychologists' services were not available, or the referral took too long to be helpful, or teachers found the scores inconsistent with their observations and wanted an alternative assessment, additional tests were administered such as the Slossen, PPVT, Lorge Thorndike or California Test of Mental Maturity.

IQ scores were indicated as inconsistent with teacher observation in 33% of the cases. Usually when this inconsistency was reported, teachers remarked that the IQ scores were lower than they expected given their observation of the child's abilities. There was no difference between the number of IQ scores of successful outcome cases and the number of IQ scores of unsuccessful outcome cases which were reported as inconsistent.

Concerning the usefulness of the IQ scores in helping to place the child or in helping to plan a program for the child, in 57% of

the successful outcome cases and in 65% of the unsuccessful cases, teachers felt that IQ scores were of little or no help. Two major reasons for this lack of usefulness were cited:

--Psychologists giving these IQ tests do not often break down scores into a task analyzed or useful form.

--Test results are received too late to be useful.

Achievement Scores. For both groups, most children began the program with achievement test scores. This data was usually obtained from norm-referenced achievement tests such as the WRAT; but one-third of the time, in both groups, these scores were supplemented by a task-analyzed type of instrument such as the BESI. Extensive achievement testing was undertaken by teachers for each group. An average of 2.6 pre-tests were given for each child with a successful outcome and an average of 2.3 pre-tests were given for each child with an unsuccessful outcome. Tests cited as used most often in both groups were the WRAT, PIAT, BEST, SORT, IGWA, CTBS, and Key Math. Tests cited as most helpful for placement and planning for the child were the PIAT, SORT, and BESI. There were no differences between the groups in the actual use of or attitudes toward the usefulness of achievement scores by the teachers.

Generally, teachers found that achievement data was most useful in planning a program for their child. They strongly favored more specific task-analyzed developmental type measurements such as the BESI because it provided more specific diagnoses of disabilities; however, they more often used norm-referenced tests to choose appropriate grade level materials. The investigators noted here that the

learning disabilities teachers were caught in the classic dichotomy on grade-level academics vs. diagnostic and prescriptive remediation. This dilemma was evident in the program for both groups.

Teacher Reports. Finally, in most cases there was some type of teacher report that accompanied referral. For both groups in 50% of the cases, a written referral form was submitted for each child--either a standard district form or a teacher-made form. Teachers generally found these reports, when available, were too informal and not specific enough to help in planning remedial programs.

In summary, there were no notable differences in the availability of information on children with successful outcomes compared to children with unsuccessful outcomes during the referral process. Concerning the number of people involved in this process, an average of 2.4 for successful outcomes as compared to 2.0 for unsuccessful outcomes might be noteworthy if it was indicative of more parent involvement or placement team coordination, but this was not the case.

Diagnostic Activities. In comparing diagnostic activities that were used with the successful outcome group to those used with the unsuccessful outcome group, the investigators had two general foci:

1. the appropriateness of the Learning Disabled classification as perceived by the teacher, and
2. the basis for classifying the child as Learning Disabled.

For the successful outcome group, 74% of the children were described by the learning disabilities teachers as being appropriately classified as learning disabled. For the unsuccessful outcome group

65% of the children were reported to be classified appropriately. The reason most often given for the 26% misclassification of successful outcome cases was that diagnosis was insufficient to warrant placement in the learning disabilities class. The reason most cited for keeping these children in the program was administrative insistence. The reason most often given for retaining the 35% reportedly misclassified unsuccessful outcome group was that no other special services were available to meet the child's needs.

The investigators found noteworthy the fact that those successful children whom teachers reported as being inappropriately labeled as learning disabled were more often referred to as having a "mild reading problem." However, the unsuccessful outcome children who were described as misclassified were more often referred to as being "emotionally disturbed."

Because it was reported in the 1973-1974 Categorical Learning Disabilities Study that 96% of the final placement decisions were made by the learning disabilities teachers, the teacher's primary basis of classifying a child as learning disabled was explored.

Three areas of input were weighed:

1. Referral Records

- a. Psychologist's referral
- b. Counselor's referral
- c. Administrator's referral
- d. Classroom teacher's referral

2. Test Scores

- a. Noting an average IQ, but low achievement performance
- b. Noting a specific basic skill deficit
- c. Noting a low IQ, but some important strengths

3. Regular Classroom Observations

Though teachers reported using all three types of information to help classify a child, in both groups test scores proved the primary basis for diagnosis and classification. A complete list of diagnostic instruments is provided in the appendix. Teachers reported using the "average IQ but low achievement" criterion over the specific basic skill deficit or singular strengths idea. Referral records were used less often to support a diagnosis of learning disabilities and regular classroom observations by the learning disabilities teachers were rarely used. With reference to these bases for classification, no obvious differences were apparent between the groups. These findings seem to reflect the availability of information (See Referral Process) as opposed to teacher prerogatives.

Treatment Program. It was expected by the investigators that the treatment programs between individual children with varying disabilities and between the two groups with severity differences would be dissimilar. Five components of the treatment program were compared for differences:

- Main approach for treating the child's problems
- Learning disabilities class organization
- Time spent with the child
- Involvement of other personnel
- Methods and materials utilized

The main approach taken by the program to remediate a child's disabilities was one of three models--a basic reading approach, an academic skills approach (stressing academic deficits but spending less than half the time on reading), or a diagnostic-descriptive

approach (classic learning disabilities teaching model). Table 9 provides a frequency count of these approaches for both groups. Concerning this idea of approach, a comparison of reading approaches of teachers who worked with reading or basic reading skills was done. This comparison involved 80% of the cases. The frequency of four methods was counted--auditory-visual with auditory stress, auditory-visual with visual stress, auditory-visual with equal stress, and auditory-visual-kinesthetic mixture. Table 10 presents these findings.

The investigators are careful to point out that the high percentages of a basic reading approach focusing on auditory-visual with auditory stress (as shown in Tables 9 and 10) for the successful outcome children likely reflect teacher competencies or a method that worked with those particular children rather than a method which will surely produce a successful outcome with all children. Indeed, some teachers who used a visual approach to reading with their unsuccessful cases stated that these children had much difficulty with phonics and could not learn by that approach.

When questioned whether any basic approach changes had been tried, teachers answered that in 5 successful outcome cases and 4 unsuccessful outcome cases an entire program thrust had been altered. These were either a change from the auditory to the visual stress in reading (or vice versa) or a change incorporating more basic skills attention. The investigators found this number small considering that the teachers had reported an average rating of "less than adequate" progress in eight disability areas for each child in the unsuccessful outcome group while at the same time reporting that their present methods were most often producing little or no gains.

TABLE 9

MAIN APPROACH FOR TREATING CHILD'S PROBLEM				
Approach	Successful Outcome (frequency) %		Unsuccessful Outcome (frequency) %	
Basic Reading Approach	11	48%	9	39%
Academic Skills Approach	7	30%	4	17%
Diagnostic-Prescriptive Approach	5	22%	10	43%

TABLE 10

MAIN READING APPROACH				
Approach	Successful Outcome (frequency) %		Unsuccessful Outcome (frequency) %	
Auditory-visual with auditory stress	13	62%	3	18%
Auditory-visual with visual stress	3	14%	7	41%
Auditory-visual with equal stress	2	10%	2	12%
Auditory-visual-kinesthetic mixture	3	14%	5	29%

Finally, the investigators asked whether the learning disabilities teacher designed the treatment program by focusing on the child's strengths or weaknesses. Teachers answered "weaknesses" for 61% with successful outcomes and 82% with unsuccessful outcomes.

The second component of the treatment program examined for comparison was the organization of the learning disabilities class for the two groups. Whether the child was seen alone or in a group and whether she or he was seen in the resource room or in the regular classroom is shown in Table 11.

Though the children representing both outcomes were seen most often in a group setting, the orientation of the groups varied widely. Those successful outcome children seen in groups had fully individualized instruction in 37% of the cases or partially individualized instruction in 47% of the cases. Only 16% of these children had all group-centered work. Of the unsuccessful outcome children seen in groups, 27% had fully individualized instruction, 60% had partially individualized instruction, and 13% had all group-centered work. To summarize, though a few more unsuccessful outcome children were seen individually, a few more successful outcome children received a primarily individualized program. Therefore, there are no notable differences in the learning disabilities class organization for the two groups.

A third component of the treatment program examined was the time spent with the child. In general, there were no significant differences between the two groups in the average duration of treatment. Children in the successful outcome group were seen for an average of 39 weeks over the school year and those in the unsuccessful group were

TABLE 11

LEARNING DISABILITIES CLASS ORGANIZATION					
Organization	Successful Outcome (frequency) %		Unsuccessful Outcome (frequency) %		
1:1 in LD class	4	22%	9	39%	
Small group in LD class	17	74%	13	57%	
1:1 in regular class	0	0%	0	0%	
Small group in regular class	1	4%	1	4%	

seen for 37 weeks. On the other hand, children in the successful group were seen more frequently (3.8 hours per week) than were those in the unsuccessful group (2.9 hours per week), and this difference was significant at the .04 level ($F = 4.26$). Also, in comparing the length of intervention for the two groups, it should be noted that 43% of the successful cases were in their second year of treatment as compared to 30% of the unsuccessful cases.

Involvement of other personnel in a treatment program for the child was the fourth component examined in this comparison. The frequency and nature of the regular classroom teacher's, other school personnel's, and parents' input into the program for each child were considered. A breakdown of those who helped in the planning or implementing of a program for the child is shown in Table 12.

Concerning the involvement of the regular teacher in the learning disabilities program for both groups, the learning disabilities teachers were asked to characterize the regular teacher's attitude toward the responsibility for remediation of the child's disabilities as mostly the learning disabilities teacher's, a shared responsibility, or mostly the teacher's using the learning disabilities teacher as a major resource. For both groups teachers described the relationship of the regular teacher to the program as:

"The regular teacher viewed the responsibility for

remediation as mostly the learning disabilities teacher's."

Teachers indicated that regular classroom teachers shared some of the planning and program implementation responsibilities in 36% of the successful outcome cases and 41% of the unsuccessful outcome cases.

TABLE 12

FREQUENCY OF INVOLVEMENT OF OTHER PERSONNEL IN TREATMENT PROGRAM				
	Successful Outcome		Unsuccessful Outcome	
	(frequency)	%	(frequency)	%
Regular classroom teacher	12	52%	9	39%
School counselor	5	22%	3	13%
Other special service teachers	4	17%	2	9%
Principal	0	0%	0	0%
School psychologist or clinical personnel	1	4%	2	9%
Parents	12	52%	4	17%

TABLE 13

NATURE OF INVOLVEMENT OF REGULAR TEACHER IN PROGRAM				
	Successful Outcome		Unsuccessful Outcome	
	(frequency)	%	(frequency)	%
Both teachers coordinate and implement a planned program	1	4%	1	4%
Materials and methods are shared regularly	11	50%	6	27%
Regular teacher implements program suggestions	6	26%	3	13%
Regular teacher does occasional LD activities	4	17%	4	17%
Regular teacher allows independent LD work	1	4%	1	4%
No regular teacher involvement	10	45%	13	59%

Table 13 summarizes the nature of regular teacher involvement as reported by the resource teachers. Though the degree of coordinated involvement of the regular teacher for both groups is low (an average of 27% for the successful outcome group and 13% for the unsuccessful outcome group), regular teachers are more involved in treatment efforts for cases reported as having a successful outcome. No difference was found between the groups in the number of conferences or the regularity of those conferences held by the learning disabilities and regular teachers.

The frequency and types of parent involvement were compared for the two groups. Thirty per cent of the successful outcome children were reported as having parents who were participants in the actual remediation of their child's disabilities through home activities or school cooperation. By contrast, only 13% of the unsuccessful outcome children had parents more than peripherally involved. The types of involvement efforts are indicated in Table 14.

Progress Evaluation. Another comparison of the successful outcome group with the unsuccessful outcome group was the means of evaluating student progress in each case. The preferred mode for ongoing evaluation used by the teachers for both groups was their informal observation. In a few cases teachers set daily objectives to assess outcome, but most did not. One noted difference was that for the successful outcome group, more sequenced programmed materials which have marked progress levels were used and apparently aided evaluation.

For assisting the overall evaluation of a child's progress in either group, the most often used method was administering achievement

TABLE 14

TYPES OF INVOLVEMENT OF PARENTS IN PROGRAM				
	Successful Outcome (frequency) %		Unsuccessful Outcome (frequency) %	
Parents involved in state, city, or school LD activities	7	30%	3	13%
Parents involved in on-going LD progress conferences	6	26%	6	26%
Parents involved in initial LD planning conference only	3	13%	0	0%
Some contact by phone or letter with parents	4	17%	5	22%
No contact with parents	3	13%	9	39%

post tests, usually the WRAT. For teachers who had focused on an academic weakness, this provided a direct evaluation of progress in the area they stressed. However, in instances of a more prescriptive and diagnostic approach to disabilities, the WRAT (or equivalent) post test provided little direct information. In ten cases, teachers felt that their observations of the child's progress in the unsuccessful outcome group were more accurate than test scores.

Generally, the area of evaluation was found to be weak for both groups. Teachers had difficulty assessing progress in any of the basic skills areas. Though they could better evaluate progress in the academic areas, they had difficulty relating that progress directly to remedial efforts carried out in the learning disabilities class. There were no objective criteria used to assess personal or social behavior by any teachers. The learning disabilities teachers could not easily document progress for either group. As we mentioned in the section on Diagnostic Activities, few teachers have available or use basic skills diagnostic instruments or focus on a basic skills prescriptive program; therefore, a specific evaluation was nearly impossible.

Regular classroom teachers were reported by the learning disabilities teachers as helpful in over half of the evaluations of the children's progress in both groups. The two teachers who reported that a diagnostic-placement team was operating in their schools also reported that these teams formally evaluated the progress of their children to decide placement for 1975-1976. Despite these contributions to the evaluation process, it still remained primarily the learning disabilities teacher's responsibility to assess their student's progress.

Program Evaluation. An important part of the overall comparison of the two groups was an efficacy rating by the learning disabilities teacher of those aspects of the program which contributed to success in successful cases and which acted as barriers to success in unsuccessful cases. Each of the areas included in Table 15 is accompanied by its average rank order (from 1-10) for both groups.

As shown in this table, the teachers reported that the method used with the successful outcome children contributed most significantly to that success. However, when reporting what seemed to be the most notable barrier to success with the unsuccessful outcome group, they listed the child's motivation and learning style. Teachers indicated that lack of parent support was the second most obvious barrier to success with this group. In this regard, it is interesting that parent support was not seen as a contributor in successful cases. For both groups, the amount of time spent with the child was rated as an important factor. Referral records, evaluation, and support from other personnel in the school were not seen as important in either case.

In light of the findings reported in the section on Methods and Materials, it seems to be noteworthy that the teachers find a variable within their control, i.e. methods and materials, as the major contributor to success in successful outcomes, but see this factor as less important in unsuccessful outcomes, particularly since there were no notable differences between the groups in the methods that were used. In addition, though lack of parent support is seen as a major barrier to success with one group, parent involvement was almost negligible for both groups.

TABLE 15

AVERAGE RANKING OF PROGRAM COMPONENTS ACTING AS CONTRIBUTORS OR BARRIERS TO SUCCESS				
	Successful Outcome Group		Unsuccessful Outcome Group	
	(Average Rating) Rank		(Average Rating) Rank	
Referral records	8.1	10	6.0	8
Diagnosis of LD areas	5.5		4.9	5
Methods of treatment	2.5	1	4.4	4
Materials used (or available)	4.0	4	5.7	6
Time spent with child	2.7	2	3.8	3
Child's motivation and learning style	3.0	3	2.4	1
Support of regular teacher	4.2	5	5.8	7
Support of other pupil personnel	7.4	8	6.2	9
Support of parents	7.5	9	3.3	2
Evaluation procedures	7.2	7	6.0	8

A general narrative summary of teachers' views on the reasons for the program's success for some children and lack of success for others may be enlightening:

--Two teachers expressed opinions that self-contained classes for severely disabled children are still necessary.

--Many others felt that they needed more time with the unsuccessful outcome children, primarily in a one-to-one situation.

--Six teachers indicated that no parental support meant no clinical assessment, poor school attendance, and no continuity from one year to the next in program planning.

--Lack of specific and speedy diagnostic information, psychological evaluation, or classroom work was reported by three teachers as detrimental to their program.

--Lack of training in prescriptive methods and daily or weekly assessment techniques were indicated by two teachers.

One aspect of the program that was continually recommended, seldom evidenced in operation, and noted as the most significant contributor to success when present, was a coordinated team in support of the placement and treatment of the learning disabled child. In only two programs was there reported such a team functioning for this purpose.

SECTION III: ANALYSIS OF METHODS AND MATERIALS

METHODS AND MATERIALS USED WITH MOST SUCCESSFUL AND LEAST SUCCESSFUL CASES

The investigators asked the teachers which methods and materials they used with their most and least successful cases. Most teachers used more commercially-prepared than teacher-prepared materials. The lists of materials and methods are found in Appendix F.

Table 16 shows the number of materials and methods teachers mentioned using for their most successful and least successful cases. It is interesting to note that some of the same materials and methods were used in both cases--that those same methods and materials which contributed to a successful outcome with some children, were not successful with other children.

Most of the materials and methods used for the most successful and least successful cases were mentioned by only one teacher. Of the 179 items mentioned for the most successful cases, only 51 or 28% were mentioned by more than one teacher, and only 21 or 12% were mentioned by more than two teachers. Of the 208 items mentioned for the least successful cases, 65 or 31% were mentioned by more than one teacher, and 32 or 15% were mentioned by more than two teachers. The methods and materials listed by two or more teachers are presented in Table 17.

Teachers mentioned the following two methods and materials most frequently: (1) activities with Dolch words, used in 14 or 61% of the most successful cases and 13 or 57% of the least successful cases, and (2) reading games, used in 10 or 43% of both the most

TABLE 16

METHODS AND MATERIALS USED WITH MOST SUCCESSFUL AND LEAST SUCCESSFUL CASES				
Disability	Number of methods and materials mentioned by teachers		Methods and materials used for both most successful and least successful cases	
	Most successful cases	Least successful cases	Number	Methods and materials
Physical Development	6	7	2	Monterey Speech Program Worksheets with tracking exercises
Self Help	0	3	0	
Motor Development	11	25	6	Pegboards Balls Balance beams Bean bags Throwing Catching
Visual Perception	21	25	13	SRA Learning to Think Series Frostig materials Dolch sight word activities Worksheets with visual discrimination exercises Tachistoscope Language master Pegboards DLM cards Puzzles Hidden pictures Geoboards Parquetry blocks Maze games and activities

cont.

TABLE 16--Continued

Disability	Number of methods and materials mentioned by teachers		Methods and materials used for both most successful and least successful cases	
	Most successful cases	Least successful cases	Number	Methods and materials
Auditory Perception	14	22	13	Peabody articulation cards Sounds in Neighborhood (record) Singer vowel tapes Educational Corporation of America auditory perception tapes Semel. Sound, Order, Sense (Follett) Tapes Unlimited (identification of animal sounds) SRA Listening Skill Builder Tapes Background noise (radio, records, tapes) while child is working Listening exercises (records, tapes) with worksheets Other records, tapes of sounds for sound discrimination activities Activities with key words from Stern Reading Series Sound games Various auditory discrimination exercises with sounds of letters and words
Memory	16	17	10	Teacher taping directions for child to follow after tape recorder turned off Listening to tapes; turning off recorder and writing down what was on tapes (e.g. number of dots and dashes) Teacher hiding objects to determine if child can remember names of objects

cont.

TABLE 16--Continued

Disability	Number of methods and materials mentioned by teachers		Methods and materials used for both most successful and least successful cases	
	Most successful cases	Least successful cases	Number	Methods and materials
Memory (continued)				DLM cards for memory Oral directions for work Memory of key words from Stern Reading Series Recall of information in filmstrips Color coding cards Listening to teacher read or tell stories; then answering questions on stories Oral message for child to take to another teacher
Spoken Language	9	5	4	Monterey Speech Program Creating an environment in which child is free to talk and in which teacher listens to him talk Telling a story from pictures child has sequenced Discussing a story child reads
Conceptual Skills	4	9	3	Looking at social studies filmstrips Walking through school and neighborhood and making maps Listening to stories and records
Personal/ Social Behavior	10	14	8	Behavior modification Engineered classroom Contracts One to one relationship with child (including discussion of child's problems and feelings) Group discussion of feelings and problems Reality therapy

cont.

TABLE 16--Continued

Disability	Number of methods and materials mentioned by teachers		Methods and materials used for both most successful and least successful cases	
	Most successful cases	Least successful cases	Number	Methods and materials
Personal/ Social Behavior (continued)				Pupil correcting his own work Responsibilities in learning disabilities group activities (e.g. showing filmstrips, making reports)
Math	15	15	7	Concrete math aids Math worksheets (teacher-made or commercial) Math games Letting child work on assignments from regular classroom Number line Magnetic number board Books on numbers and other math concepts (e.g. All about Ten by Taimac)
Reading	42	36	27	High interest, low level readers Basal developmental readers (e.g. Ginn) Stern Multi-Sensory Structural Reading Series Merrill Linguistic Readers Specific Skills Series. Barnell-Loft McCall-Crabbs books SRA Reading Laboratory Readers Digest Skill Builder Series Peanut Butter Boy Distar Hoffman Reader Oral reading Silent reading

cont.

TABLE 16--Continued

Disability	Number of methods and materials mentioned by teachers		Methods and materials used for both most successful and least successful cases	
	Most successful cases	Least successful cases	Number	Methods and materials
Reading (continued)				Fernald approach to reading (VATK) Word boxes Experience stories Dolch word activities Library books Language master Tachistoscope Reading worksheets Reading games Supplementary readers which accompany Stern Reading Series Other supplementary readers Ideal readiness worksheets Milton Bradley reading readiness worksheets Aims Pre-Reading Program. Continental Press
Phonics in Reading	14	11	9	Aims Phonics Program First Experiences in Phonics with Vowels and Consonants. McGraw-Hill Phonics We Use. Lyons and Carnahan Scholastic Phonics Series Phonics games (e.g. Lyons and Carnahan "Spin a Sound" game) Phonics worksheets Ideal Magic Cards Milton Bradley tapes and worksheets on sounds Bremner-Davis. Sound Way to Easy Reading

cont.

TABLE 16--Continued

Disability	Number of methods and materials mentioned by teachers		Methods and materials used for both most successful and least successful cases	
	Most successful cases	Least successful cases	Number	Methods and materials
Spelling	8	9	3	Tactile approach (tracing sandpaper letters, making letters in sand) Phonics Spelling games
Handwriting	6	5	2	Switch to cursive Tracing (using sandpaper letters, writing in salt)
Orientation	3	6	2	Clock Use of color to indicate left and right (or stop and start on a line)

TABLE 17

METHODS AND MATERIALS MENTIONED BY TWO OR MORE TEACHERS		
	Most Successful Cases	Least Successful Cases
Physical Development	Worksheets with tracking exercises	Watching hand move in circle or watching movement of ball (eye movement or tracking) Workbooks and worksheets with tracking exercises
Motor Development	Pegboards Cutting Balance beams	Jumping rope DLM pegboards Balance beams Balls Bats Bean bags Catching Throwing
Visual Perception	Dolch sight word activities Pegboards Puzzles Framing to limit words Worksheets with visual discrimination exercises Tachistoscope Parquetry blocks Hidden pictures	Pegboards Hidden pictures Visual perception games Parquetry blocks Maze games and activities Dolch sight word activities Tracking activities (e.g., lines in workbooks) Tracing letters (tactile approach) Worksheets with visual discrimination exercises
Auditory Perception	Background noise while child is working	Sound games Background noise (records, tapes) while child is working Unnamed records, tapes of sounds for sound discrimination SRA Listening Skill Builder Tapes Teacher taping directions for child to follow while listening to tape Various other auditory discrimination exercises
Memory	Teacher taping directions for child to follow after tape recorder turned off Listening to tape; turning off recorder and writing down what was on tape	Tachistoscope Tactile, tracing approaches other than Fernald Sight word activities Color coding cards

TABLE 17--Continued

	Most Successful Cases	Least Successful Cases
Memory (continued)	Teacher hiding objects to determine if child can remember names of objects or can put them back in right order Oral directions for work	
Spoken Language	Peabody Language Development Kit Creating an environment in which child is free to talk to teacher, and in which teacher listens to him talk Telling stories into a tape recorder	Creating an environment in which child is free to talk, and in which teacher listens to him
Conceptual Skills		Concrete aids to teach math concepts Listening to teacher read or tell stories to pupils
Personal/ Social Behavior	Behavior modification Engineered classroom Role playing Contracts One to one (teacher-child) discussion of child's problems and feelings	Behavior modification Engineered classroom Contracts Group discussion of feelings and problems One to one relationship of teacher with child (including listening to child and discussing his problems and feelings) Shortening assignments so that child can complete them (attention span)
Specific Achievement: Math	Math worksheets Concrete math aids Math games Flash cards	Math worksheets Child making big paper foot-steps with numbers to put on floor and use for addition Math games Concrete aids Number line
Reading	Dolch word activities Reading games Reading worksheets High interest, low level readers Stern Multi-Sensory Structural Reading Series	Dolch word activities Reading games Reading worksheets High interest, low level readers Stern Multi-Sensory Structural Reading Series

TABLE 17--Continued

	Most Successful Cases	Least Successful Cases
Reading (continued)	Basal developmental readers Oral reading Silent reading Merrill Linguistic Readers Barnell-Loft Specific Skills Series Library books and magazines Supplementary readers Word boxes Language master Readers Digest Skill Builder Series	Basal developmental readers Oral reading Silent reading Experience stories Typing Use of blackboard for big writing and reading Library books Tachiatoscope Fernald tracing approach (VATK) Readers Digest Skill Builder Series
Phonics in Reading	Phonics games Phonics worksheets Other unspecified activ- ities mentioned as "phonics" by teachers	Phonics games Phonics worksheets Other unspecified activities mentioned as "phonics" by teachers
Spelling	Phonics Tactile, tracing approach Dolch word list Spelling games	Spelling games Tactile, tracing approach Typing
Handwriting	Tactile, tracing approach	Teaching of cursive writing Use of blackboard for big writing and reading Tactile, tracing approach

successful and least successful cases. Neither of these methods and materials constituted a major treatment program in most cases.

Only a few teachers mentioned the same items when discussing materials and methods which they used for a large proportion of the time in treating a disability. For example, 13 of the 23 teachers used a reading approach as the main approach in treating their most successful and/or least successful cases--that is, they concentrated more than half of the time on a reading or reading/language arts program. Yet in discussing the methods and materials most used in treating the reading disability, few teachers mentioned the same item. For example, the following materials and methods were some of the reading programs used a large percentage of the time in the treatment of reading disabilities, yet no more than two teachers mentioned each item:

	# Teachers of Most Successful Cases	# Teachers of Least Successful Cases
Stern Multi-Sensory Structural Reading Series	2	2
Merrill Linguistic Readers	2	1
Barnell-Loft Specific Skills Series	2	1
Engelmann-Becker Corrective Reading Program	1	0
Edmark Program	0	1
Macmillan Decoding for Reading	1	0
SRA Reading Laboratory	0	1
Distar	1	1
Imperial Intermediate Reading Program	1	0
Ginn Basal Developmental Readers	2	1

Particularly Useful Methods, Materials and Equipment. Teachers were asked which methods, materials and equipment were particularly useful in working with their most successful and least successful cases. Teachers mentioned 29 methods and materials and 4 pieces of equipment as particularly helpful in working with the most successful cases. They noted 25 methods and materials and 3 pieces of equipment as particularly helpful in working with their least successful cases. A complete listing of these items is found in Appendix F.

In discussing their most successful cases, 24 methods and materials and 3 pieces of equipment were mentioned by only one teacher. The following items were mentioned by more than one teacher as particularly useful with the most successful cases:

<u>Item Used</u>	<u>Number of Teachers</u>
Behavior modification	2
Phonics activities	3
Dolch word activities	2
Stern Multi-Sensory Structural Reading Series	2
High interest, low level readers	2
Tape cassette recorders	3

In discussing their least successful cases, 23 methods and materials and 2 pieces of equipment were mentioned by only one teacher. The following items were mentioned by more than one teacher as particularly useful with their least successful cases:

<u>Item Used</u>	<u>Number of Teachers</u>
High interest, low level readers	2
Dolch word activities	2
Tape cassette recorders	2

Seven methods and materials and one piece of equipment were noted as particularly useful in both the most successful and least successful cases. They are:

Behavior modification
 Phonics activities
 Dolch word activities
 High interest, low level readers
 Reading games
 Concrete materials in math
 Bremner-Davis. Sound Way to Easy Reading
 Tape cassette recorders

Notably Useless Methods and Materials. Teachers mentioned 12 methods and materials as particularly useless in working with their most successful cases and 16 items as particularly useless in working with their least successful cases.

With the most successful cases each method and material was mentioned by only one teacher. With the least successful cases, 13 methods and materials were mentioned by only one teacher, while the following 3 items were mentioned by two teachers as particularly useless:

1. Group work (child needs one to one)
2. Any negative look, gesture or comment
3. Phonics activities

The following 5 materials and methods were mentioned as particularly useless for both most successful and least successful cases.

	# Teachers of	
	<u>Most Successful</u>	<u>Least Successful</u>
Any negative comments	1	2
Group work (child needs 1:1)	1	2
Phonics	1	2
Stern Multi-Sensory Structural Reading Series	1	1
Math worksheets	1	1

It is interesting to note that the same methods and materials were listed by some teachers as particularly useful and by other teachers as particularly useless. See Table 18.

Deciding Which Materials to Use. The investigators asked the teachers how they decided which materials and equipment to use with the children. Teachers of both groups most frequently mentioned observation of the child (e.g., the child's interests, behavior problems, learning style, and progress) and in-service meetings and college courses as important factors in choosing materials. Other factors frequently mentioned by teachers in both groups included standardized tests indicating specific weaknesses (e.g., Besi, Key Math, ITPA); materials suggested by the regular classroom teachers; and teacher preferences (e.g., materials used in previous teaching experiences in EMR and ED classes).

Four teachers of successful cases and two teachers of unsuccessful cases stated that they chose materials on the basis of their availability in the learning disabilities room or in the school. Four teachers of unsuccessful cases and two teachers of successful

TABLE 18

Methods and Materials	<u>Particularly Useful</u>		<u>Notably Useless</u>	
	Number of Teachers of Most Successful	Number of Teachers of Least Successful	Number of Teachers of Most Successful	Number of Teachers of Least Successful
Frostig materials	0	1	1	0
Phonics	3	1	1	1
Dolch word activities	2	2	0	1
Stern Multi-Sensory Structural Reading Series	2	0	1	1
Distar	1	0	0	1
Behavior modification	2	1	0	1
Role playing	1	0	0	1
Concrete math aids	1	1	0	1
Any method using visual memory	0	1	1	0
Math games	0	1	0	1

cases stated they used trial and error in deciding which materials to use, that they tried "everything" in order to find materials that worked.

SHARING MATERIALS AND METHODS

Sharing with Regular Classroom Teachers. Eleven of the teachers of successful cases and 6 of the teachers of unsuccessful cases regularly shared materials with the regular classroom teachers. These materials were mainly in the academic areas of reading and math. For example, some of the materials shared by teachers of both successful and unsuccessful cases were: reading and math games; reading and math worksheets; books (e.g., basal developmental readers, high interest-low level reading books); other reading program materials and equipment (e.g., key words from the Stern Reading Series, a language master).

Two teachers of successful cases shared a behavior modification program with the regular classroom teacher. One teacher of an unsuccessful case said she "shared any material that seemed successful" with the regular teacher.

Four of the regular classroom teachers of the successful cases and 5 classroom teachers of unsuccessful cases shared materials with the learning disabilities teacher (e.g., reading and math worksheets, readers and spellers used in the regular classroom).

Sharing with Parents. Twelve of the teachers of successful cases and 16 of the teachers of unsuccessful cases did not share materials with the parents of children in the learning disabilities programs.

The 11 teachers of successful cases and 7 teachers of unsuccessful cases who did share materials with parents, mainly shared math and

reading materials. For example, these materials included books, reading and math games, arithmetic flash cards, the Dolch word list, and reading contest information.

Three of the 11 teachers of successful cases shared materials related to learning disabilities basic skills. These materials included puzzles for visual perception and fine motor coordination; sewing cards for fine motor coordination; ideas for visual memory and auditory discrimination activities; and a tape cassette recorder with directions for auditory memory exercises.

Three of the teachers of unsuccessful cases shared some materials related to learning disabilities basic skills, including visual motor worksheets, a checklist from the Morterey Speech Program, and a behavior modification program.

Three of the 11 teachers of successful cases and 4 of the 7 teachers of unsuccessful cases who shared materials, stated that they were unsure if parents used these materials.

COMPARISON OF PROGRAM APPROACHES

In the comparison of the educational programs each teacher used with her most successful and least successful cases, the investigators looked at the following factors:

- (1) the main approach used for treating each child's problems--a basic reading approach, an academic skills approach, or a diagnostic prescriptive approach;
- (2) the specific reading approach used with each case, if reading was taught--auditory-visual with auditory stress, auditory-visual with visual stress, or an auditory-visual-kinesthetic mixture;

(3) the materials used with each case;

(4) the methods used with each case.

Based on the above factors, the investigators judged that 11 or 48% of the teachers used educational programs that were basically different with their most successful and least successful cases, and 12 or 52% of the teachers used programs that were basically the same with the two cases. The majority of materials and methods used by the latter 12 teachers were the same with their most successful and least successful cases. Indeed, with 9 of these teachers, over 75% of the materials and methods were judged to be the same in both cases.

Seven of the teachers whose programs were judged to be the same used a reading approach to remediate the children's disabilities. They concentrated an average of 87% of their time on a reading or reading/language arts program, using basically the same materials and methods with both cases. An eighth teacher whose program was judged to be basically the same for the most successful and least successful cases, concentrated 100% of the time on math with both children. Those teachers who concentrated most of the time on a reading/language arts or math program tended to include much of the remediation program of basic skill disabilities (such as auditory perception, visual perception, memory, and conceptual skills) in the reading/language arts or math programs.

Most of the 12 teachers using the same approach with both cases continued to use these same materials and methods even when the unsuccessful cases were not making progress. However, the investigators did note that even when the basic methodology was the same, the

teachers did attempt to individualize some activities in one or more of the following ways: by putting pupils in reading or math or other materials on their own level, permitting pupils to go through some materials at their own pace, giving pupils individual contracts and/or choices concerning some of the work to do, making special worksheets for some children, shortening or lengthening worksheets, and giving pupils more or less phonics or sight word activities. However, even with these attempts to individualize, teachers rarely altered the main methodological approach, but continued to use the same basic materials and methods most of the time with both cases.

For example, even though most teachers used some variation of an auditory-visual approach in teaching reading, 3 of the teachers of the most successful cases and 5 of the teachers of the least successful cases used an auditory-visual-kinesthetic approach to reading. However, this kinesthetic-tactile approach was used as a supplementary approach in the teaching of reading. In two cases, this approach was used 10% or less of the time devoted to the teaching of reading; in the remaining cases it was used 5% or less of the time devoted to the teaching of reading.

The investigators felt that the teachers were conscientious in endeavoring to meet the needs of the unsuccessful cases. Four teachers mentioned that they tried everything, but nothing worked. The investigators concluded that teachers needed more training in the correct use of radically different approaches (such as the Fernald Visual-Auditory-Tactile-Kinesthetic method as a main approach

to reading) for use when the regular methods and materials were not working with some children.

Summary. Teachers were individualistic in their use of materials and methods. Most of the materials and methods used for the most successful and least successful cases were mentioned by only one teacher. Some materials and methods were listed by some teachers as particularly useful and by other teachers as particularly useless. Some of the same materials and methods were used in both the most successful and least successful cases. Indeed, the investigators judged that in 52% of the cases the teachers used basically the same educational program with both cases.

Even though teachers were individualistic in their use of materials and methods, each teacher was successful with some children and unsuccessful with others. The investigators concluded that the most important question is not "which materials and methods should be used?" but rather "which materials and methods with which child?" and "which materials and methods with which teacher?" since teachers tend to be more effective with the materials and methods they like.

As teachers find that a child is not making satisfactory progress, they should try new methods and materials, since no one method and material will work with every child.

SECTION IV: SUMMARY AND CONCLUSIONS

Each of 44 categorical learning disabilities teachers in North Carolina was sent a screening questionnaire and 23 programs were sampled for on-site interviews. Each of the teachers who was interviewed was asked to nominate one child for whom the program had been the most successful and one child for whom the program had been the least successful. Program success was evaluated in terms of educational progress in academic achievement, basic skills, social adjustment, and personal competencies.

The on-site interviews were conducted by two investigators and lasted approximately two and a half hours. In order to compare the academic and behavioral characteristics of children in the successful and unsuccessful groups, the teachers were asked to review their referral and diagnostic records and to complete a rating scale designed to assess the severity of learning disabilities in each of 11 basic skills and academic competencies. Also, teachers were asked specific questions about the nature of the instructional program with respect to successful and unsuccessful cases.

The analysis of responses to the interview and available records supported the following conclusions regarding successful and unsuccessful outcomes:

1. Children who were perceived as successful did not differ from those who were perceived as unsuccessful in either chronological age, ability level, or academic attainment when they entered the learning disabilities program.

2. However, children who were classified as unsuccessful displayed relatively more specific disabilities which were rated as more severe than those who were classified as successful.
3. Children who showed the least progress in the learning disabilities program were rated as having more severe disabilities in auditory perception, memory, motor development, orientation skills, and personal-social behavior compared to those who showed the greatest progress.
4. At the same time, the results indicated that very few children with severe or profound disabilities were served. Rather, the program seemed to serve children where disabilities were in the mild to moderate range on the severity scale.
5. The analysis of student gains in academic achievement tended to support their teacher's impressions of their progress in that children in the successful group made statistically significant gains, whereas those in the unsuccessful group failed to show significant progress.

6. The analysis of the referral system used in the various programs indicated that (a) classroom teachers were the primary referrers accounting for 78% of the referrals in both cases, (b) greater coordination of referral information is needed to facilitate placement, (c) psychological test data frequently arrives too late to be useful in making a placement decision, and (d) diagnostic/ placement teams composed of all the special services personnel in the school were highly valued when they were present.
7. The analysis of the diagnostic activities found that teachers perceived that 26% of the successful outcome group were misclassified, of which the majority would have more appropriately been placed in a reading program. Moreover, these teachers reported that 35% of the unsuccessful outcome group were misclassified, of which the majority were said to be "emotionally disturbed."
8. The main difference between the groups (when comparing the treatment program for main approach, class organization, time, personnel involvement, and methodology) was found to be in the area of time spent with the individual child. There were no

significant differences between the two groups in the average duration of treatment (i.e., weeks per year), but children in the successful group were seen more frequently (3.8 hours per week) than were those in the unsuccessful group (2.9 hours per week).

9. An analysis of evaluation methods used with both groups yielded little in the way of group differences, but did emphasize a general weakness in this area. Most teachers used norm-referenced achievement tests to assess academic gains; however, they usually were unable to document progress in basic skills or personal/social behavior other than by informal observations.
10. In comparing teachers' opinions about program efficacy--i.e., what parts of the program contributed to success in successful outcomes and hindered success in unsuccessful outcomes, it was found that teachers viewed their teaching methods as the biggest contributor to success for the successful outcome group. They viewed the child's motivation and learning style as the biggest hindrance to success for the unsuccessful outcome group. Lack of parent support was seen as the second major hindrance to success for the unsuccessful outcome group.

11. In general, the teachers were highly individualistic in their use of materials and methods and little consistency was found among teachers in the frequency with which various items were used. Little evidence was obtained to suggest that the teachers used a diagnostic-prescriptive approach in selecting materials and methods. Rather, they tended to select materials on the basis of familiarity, availability, or trial-and-error.
12. Approximately 52% of the teachers used a methodological approach which was judged to be basically the same for both successful and unsuccessful cases. It was noted that in most cases teachers continued to use the same basic approach even when they recognized that the unsuccessful cases were not making progress. This finding was noteworthy in that they viewed their specific methodology as the most significant contributor to success for the successful outcome group. In the unsuccessful cases individualization most often took the form of a change in the pace or amount of instruction rather than the kind of instruction.

SECTION V: PROSPECTUS FOR FUTURE EVALUATION

One of the marks of a maturing program is the development of systematic data collection plans that can insure some degree of quality control and establish a solid base for future planning. While such collection would seem almost premature during initial developmental phases of the program, it would seem reasonable to plan for and initiate such systematic collection of information.

The present prospectus is intended to facilitate such planning by suggesting four questions which might be explored in future evaluations of the categorical learning disabilities program, and by briefly outlining the essential features of these studies.

1. What is the impact of special education services provided by categorical learning disabilities teachers on the academic progress and social/personal competencies of learning disabled children in North Carolina?

In order to assess program effectiveness it will be necessary to collect a large amount of data by using a pre-post-test design which takes into account both the characteristics of the students and the type of program that is offered. Since it is not practical to study every child in the program, a random sample of students could be drawn from among those who enter the program in the fall of 1975. Each of these students would then be pre-tested on measures of academic achievement, basic skills, and classroom behavior.

At the same time, information would be collected on the nature and severity of the referral problem, and on the student's age, ability level, and socio-economic status. In addition to standardized

measures, it would be desirable to obtain information on the perceptions of classroom teachers and those of parents. Such data would be obtained through a combination of questionnaires and interviews on site. To insure maximum generality, the programs should be selected in order to represent the various types of services that are offered (i.e., self-contained, resource room, and itinerant) across the state. Finally, in order to provide the most complete description of what was actually done, program records in the form of teacher-logs could be obtained and this information related to student progress.

2. What characteristics of the child and his learning environment combine to produce a favorable educational outcome?

Although the study described above would determine the immediate benefits of remedial services, the problem remains to describe those factors which account for the changes that were obtained. It is often the case that while large impact studies of this kind establish the efficacy of an educational program, they are nevertheless not always useful in future planning.

To fully understand the learning process, we cannot settle for just a comprehensive description of the program, or of the learner. Rather, it is in the complex interaction of teacher, program and student characteristics that we can identify those forces influencing performance in a given learning environment.

Therefore, during the school year several smaller studies should be planned which would involve the careful observation of learning disabled and non-learning disabled children in different types of regular classroom activities (e.g., small group instruction, free

choice activities, etc.). Also, the behavior and learning styles of learning disabled children in the resource room should be compared with that observed in the regular classrooms. In addition to valuable knowledge that could be gained about the learning styles of learning disabled children, this information should be of assistance to the teacher in planning a learning environment or set of experiences for children who display different patterns and degrees of disability.

3. How durable are the effects of remedial services for a child who presents a particular kind of problem and what kind of experience leads to greater long-term progress?

A great deal of evidence has accumulated over the last decade which indicates that many innovative programs in education have a rather profound immediate impact which dissipates after the treatment program has been removed. Consequently, many remedial efforts have been criticized as "too little, too late". On the other hand, there has not been a systematic analysis of those variables either in the child or in the program which account for long-term success or failure. Therefore, any large scale study of the categorical learning disabilities program greatly compromised if it did not provide for follow-up assessments. Also, a great deal of valuable information could be obtained by relating key student and program variables to the gains that are made over succeeding years.

4. What are the relative cost/benefits of alternative delivery systems?

One finding from the survey of existing programs was that a variety of different delivery systems are being used in local schools.

Although the most popular plan seems to involve placement in a resource room for a portion of the school day, some LEAs have adopted an itinerant teacher approach in which services are shared among several schools. A small number of self-contained classes are used in the state. In addition to these administrative arrangements, delivery systems differ in the extent to which they offer small group, one-to-one, and consultative services.

In addition to the issue of program effectiveness as evaluated by student gains, it would be beneficial to learn whether one type of plan or pattern of services was more easily established, administered, or cost-effective than another. This information could be collected by reviewing a small number of particularly "successful" programs, and would aid in the continued refinement of the categorical learning disabilities program.

SCREENING QUESTIONNAIRE
I. TEACHER INFORMATION

78

Name _____
Address _____
Phone _____
School _____

Please check appropriate blanks:

A. Sex:

1. ☐ Male
2. ☐ Female

B. Age range:

1. ☐ 21 years or younger
2. ☐ 22-26
3. ☐ 27-32
4. ☐ 33-38
5. ☐ 39-44
6. ☐ 45-50

C. Race:

1. ☐ Black
2. ☐ Chicano
3. ☐ Native American
4. ☐ Oriental
5. ☐ White
6. ☐ Other (Specify: _____)

D. Educational background:

1. ☐ B.A. (Major: _____)
2. ☐ M.A. (Major: _____)
3. ☐ Ph.D. (Major: _____)

E. Have you had special training in LD?

1. ☐ Yes
2. ☐ No

F. If you have had special LD training, indicate the nature of this training:

1. ☐ College preparation in LD specifically
2. ☐ College preparation in Special Education other than LD
3. ☐ Some college courses in LD (one or more)
4. ☐ In-service workshops

G. Teaching experience (including '74-'75):

1. ☐ 1 year
2. ☐ 2 years
3. ☐ 3-5 years
4. ☐ 6-8 years
5. ☐ 9-11 years
6. ☐ 12 years or more

H. Do you hold State Certification in LD?

1. ☐ Yes
2. ☐ No

I. Your job can best be described as:

1. ☐ Resource teacher
2. ☐ Itinerant teacher
3. ☐ Self-contained special class
4. ☐ Other (Specify: _____)

J. Which if the following assistants do you have?

1. ☐ Hired teacher's aide
2. ☐ Volunteer aide
3. ☐ Parent aide
4. ☐ Student intern
5. ☐ Other (Specify: _____)
6. ☐ None of the above

K. How often do you confer with the regular classroom teachers of your LD students (by meetings or written report)?

1. ☐ Once a week (or more)
2. ☐ Once a month
3. ☐ Once a semester
4. ☐ We rarely confer.

II. CHILDREN INFORMATION

Name. 79
 Address _____
 Phone _____
 School _____

Please fill in or check appropriate blanks:

A. How many students were on your case roles fall semester 1974?

1. _____

B. Of these students, how many were:

1. _____ Males
2. _____ Females

C. Of these students, how many were:

1. _____
1. _____ Black
2. _____ Chicano
3. _____ Native American
4. _____ Oriental
5. _____ White
6. _____ Other (Specify: _____)

D. Of these students, how many did you see:

1. _____ Full-time every day
2. _____ Part-time every day
3. _____ More than once a week
4. _____ Once a week
5. _____ Less than once a week

E. On most of these children, there is information in your files on:

1. _____ Medical history
2. _____ Physical examinations
3. _____ Academic history
4. _____ Achievement data
5. _____ Language evaluation
(e.g., speech disorders, etc.)
6. _____ Intelligence tests
7. _____ Visual-motor assessments
8. _____ Psychological reports
9. _____ Teacher observations
10. _____ Parent-teacher conferences
11. _____ Special placement recommendations
(referral information)

F. Who is the child for whom this program has been the most successful (refer to cover letter for explanation)?

G. List four other students for whom this program has been successful (since the fall of 1974).

H. Who is the child for whom this program has been the least successful (refer again to cover letter)?

I. List four other students for whom this program has been unsuccessful (since the fall of 1974).

1.	2.	3.	4.	5.	
name:	name:	name:	name:	name:	Date of birth
					Sex
					Race
					IQ Score
					IQ Test (name)
					CHECK: WRAT
					PIAT
					VMI
					ITPA
					PPVT (Peabody)
					Frostig
					BESI
					Referral Records
					Psychological Record
					Medical Records
					Other Items:

PARTICIPATING PROGRAMS IN THE CATEGORICAL LEARNING DISABILITIES STUDY
1975

Educ. Dist. #	Teacher Name School Address	Educ. Dist. #	Teacher Name School Address
1	Iris S. Etheridge c/o Bertie County Schools Box 10, 1101 N. King Street Windsor, N. C. 27983 (919) 794-3173	2	Katherine R. Eatmon Contentnea School Rt. 1, Kinston, N.C. 28501 Banks School Rt. 2, Kinston, N. C. 28501
1	Pamela Rottier Camden Middle School Belcross, N. C. 27918 (919) 338-3349	2	Sandy Kellum Parkwood Elementary School Western Boulevard Jacksonville, N. C. 28540 (919) 347-6711
1	Daphne M. Higgins Perquimans Central School Winfall, N. C. 27985	3	Iris Bordeaux Bethesda Elementary School 2009 S. Miami Boulevard Durham, N. C. 27703 (919) 596-2416
1	Betty R. Quinn W. H. Robinson School Winterville, N. C. 28590 (919) 756-3707	3	Eileen Cotter Myrtle Underwood School 1614 Glenwood Avenue Raleigh, N. C. 27608 (919) 755-6927
1	Diana Pegram and Kay Donnell Elmhurst School Elm Street Greenville, N. C. 27834 (919) 756-0180	5	Beverly Anthony Silver Valley School Rt. 2, Box 179 Thomasville, N. C. 27360

Educ. Dist. #	Teacher Name School Address	Educ. Dist. #	Teacher Name School Address
6	Helen Q. Johnson Fallston Elementary School Fallston, N. C. 28043 (704) 538-7341	7	Diana J. Dowling Hickory City Schools 432 4th Avenue, S.W. Hickory, N. C. 28601 (704) 322-2855
6	Ada Ruth Emory Flint Grove Elementary East Gastonia, N. C. 28052 (704) 865-2365	7	Mary K. Sexton Cooleemee Elementary School Cooleemee, N. C. 27014 (704) 284-2581
6	Bettye N. Goff Lindelfeldt Elementary School Gastonia, N. C. 28052 (704) 865-3822	7	Trina Hall Mt. Ulla School Mt. Ulla, N. C. 28125 (704) 278-2750
6	Hazelene H. Ford Aspen Street School 1110 S. Aspen Street Lincolnton, N. C. 28092 (704) 735-7141	7	Peggy Ann Pope Hardin Park Elementary School Boone, N. C. 28607 (704) 264-8481
6	LaNita Ann Plummer Clear Creek School Rt. 1, Box 779 Charlotte, N. C. 28205 (704) 545-4327	8	Sharon Thurman Hayesville Elementary School Hayesville, N. C. 28904 (704) 389-8586
7	Harold Earley Drexel Elementary School Drexel, N. C. 28619 (704) 437-2834	8	Linda Hetzel Rutherfordton Elementary School Rutherfordton, N. C. 28139 (704) 287-3778
		8	Shirley Turner Tryon Elementary School Box 850, Tryon, N. C. 28782 (704) 859-6584

APPENDIX C

CATEGORICAL LEARNING DISABILITIES QUESTIONNAIRE
1975

I. BIOGRAPHICAL INFORMATION

- A. Teacher's name _____
- B. School address _____
- C. Child's name (or code) _____
- D. Successful outcome _____ Unsuccessful outcome _____

II. REFERRAL RECORDS AND SCREENING

- A. When treatment began did you have psychological data on this child (other than IQ)? _____

What type? (e.g., case study, ITPA, etc.) _____

Did it help you plan a program for this child? _____

In what ways? _____

If not, was this child referred for such at a later date? _____

- B. When treatment began did you have IQ data on this child? _____

What test? _____

Did the scores seem consistent with your observations? _____

Did they help you plan a program for this child? _____

In what ways? _____

If not, was this child referred for such at a later date? _____

- C. When treatment began did you have achievement data on this child? _____

What type? (list tests with scores) _____

Did it help you plan a program for this child? _____

Which, if any, of these tests was the most helpful? _____

In what ways? _____

Have you administered post tests? ____ What type? (list tests with scores) _____

D. When treatment began did this child come to you with teacher reports?

_____ In what form? _____

Did they help you plan a program for this child? _____

In what ways? _____

E. Which of the above data was the most helpful in planning a program for this child?

_____ psychological data

_____ IQ data

_____ achievement data

_____ teacher reports

F. Who was the primary referer of this child? _____

Does that person still work with you concerning this child? _____

In what capacity? _____

G. Who was involved in the referral of this child to your program? (list)

III. DIAGNOSTIC ACTIVITIES

A. Is this child appropriately classified as LD? _____

B. What was your basis for classifying this child as LD?

___ 1. Referral Records List any specifics

- ___ Psychologist referral
- ___ Counselor referral
- ___ Administrator referral
- ___ Classroom teacher referral

___ 2. Test Scores

- ___ Average or above IQ, but low achievement scores
- ___ Specific skill deficit shown by ITPA, Frostig, etc.
- ___ Low IQ, but some strengths

___ 3. Observations in Regular Classroom

C. If not appropriately classified as LD, why was this child involved in your program?

- ___ administrator's insistence
- ___ no other services available
- ___ diagnosis was insufficient
- ___ other (specify: _____)

- D. Complete this disability/severity rating scale (based on the child at the time of entering the program).

Disability	Severity				
	None	Mild	Mod	Sev	Pro
1. Physical development	1	2	3	4	5
2. Self help (e.g., dressing, personal hygiene)	1	2	3	4	5
3. Motor development	1	2	3	4	5
4. Visual perception	1	2	3	4	5
5. Auditory perception	1	2	3	4	5
6. Memory (visual and auditory)	1	2	3	4	5
7. Spoken language	1	2	3	4	5
8. Conceptual skills	1	2	3	4	5
9. Personal/social behavior	1	2	3	4	5
10. Specific achievement (e.g., math, reading, spelling, etc.)	1	2	3	4	5
11. Orientation skills (relationships, reversals, etc.)	1	2	3	4	5

- E. Number of disability areas _____
- F. Total severity rating ____/11 = \bar{X} severity rating _____
- G. Severity index = number areas x \bar{X} rating = _____
- H. Once treatment began, did you give other diagnostic tests? _____

What type: IQ _____ Dates: _____
 Psychological _____
 Achievement _____
 Medical (eyes, ears, etc.) _____

Did this new data give you ideas for changing the treatment? _____

If so, specify: _____

IV. TREATMENT ACTIVITIES

A. Methods

1. For each disability listed (III,C), what was your method for remediation? How much time did you concentrate on each?

Disability	Method	% Time Spent

2. If you did not attack specific disabilities, what other methods did you use?

3. Which, if any, of the above methods were particularly successful?

4. Which, if any, of the above methods were notably unsuccessful?

5. Summarize your main approach in attacking this child's disabilities.

___ You assumed the treatment of this child's disabilities would be included in a reading program. Therefore, you concentrated half or more of the time on a reading/language arts program and half or less of the time specifically attacking other skills.

___ Your main approach was attacking the child's learning disabilities separately. You spent less than half of the time on a reading/language arts program.

___ Other. If your main approach was not attacking specific disabilities or focusing mainly on reading as described above, what other approach did you use?

6. If you were working on reading, which of the following methods did you use?

___ (%) _____ auditory (e.g., phonics, discrimination skills, etc.)

___ (%) _____ visual (e.g., word sight vocabulary, discrimination exercises)

___ (%) _____ kinesthetic or tactile (e.g., tracing, sand-paper letters, etc.)

7. During the program, did you decide to change the basic method of treatment (e.g., change from a mainly auditory to a mainly visual approach, or change from a basic reading approach to a basic skills approach, etc.)?

If yes, how? ___ 1. Decided to omit certain materials or activities.

___ 2. Decided to add certain methods or activities.

___ 3. Altered entire approach.

8. In which situation(s) was this child seen? (%)
- ___ 1:1 in LD classroom _____
- ___ in a group in LD classroom _____
- ___ 1:1 in regular classroom _____
- ___ in a group in regular classroom _____
9. If this child was treated in a group, compare his treatment with the other children in his group.
- a. What percentage of the treatment time of this child was the same as other children in his group? _____
- b. What percentage of the treatment time was individualized for this child? _____
- c. If some activities were individualized, explain how:
- ___ (1) Assignments were shortened or lengthened according to child's needs. Explain: _____
- ___ (2) Child was given individual contract.
- ___ (3) Child was not given contract but was given some choices concerning work to do. Explain. _____
- ___ (4) Child was allowed to go through material at his own pace rather than at group pace. Explain. _____
- ___ (5) Some materials and methods were used to especially emphasize this child's strengths and/or weaknesses. Explain. _____
- ___ (6) Other. _____
10. In characterizing your approach, would you say that it focused on remediating the child's academic or skill weaknesses or on the child's academic or skill strengths? _____

B. Instructional Materials and Equipment

1. For each method mentioned, what materials or equipment were used?

Disability

Materials or Equipment

2. What other materials and equipment were used? _____

3. Which of these materials or equipment were particularly useful?

4. Which of these materials or equipment were notably useless?

5. How much money are you given for class use for materials and equipment per year? _____ Is it adequate? _____

6. What is the ratio of your use of commercially-prepared to teacher-prepared materials? _____

7. Which materials and equipment that you used with this child did you share with his regular classroom teacher?

☐ none
☐ games (commercial or teacher made)
☐ worksheets or drill activities
☐ reading program materials
☐ books
☐ other (specify: _____)

8. How did you decide which materials and equipment to use with this child?

☐ materials required in regular classroom (suggested by teacher)
☐ standardized tests showing specific weaknesses
☐ child's interest
☐ teacher preference
☐ suggested by other sources (e.g., courses, catalogues, etc.). Specify: _____
☐ other (specify: _____)

C. Time

1. How often did you work with this child? _____ (hrs/wk)
2. When was this child referred to you? _____
3. What was the total length of intervention to date? _____
(number of weeks after screening)

4. Where was this time spent (percent)?
 LD room _____
 Regular classroom _____
 Other (specify) _____

D. School Personnel Coordination

1. How would you describe your relationship with this child's regular classroom teacher?

_____ The regular teacher viewed the responsibility for remediation as mostly the LD teacher's.

_____ We worked together on a program for this child.

_____ The regular teacher used the LD person as a resource, but accepted the major responsibility for remediation.

2. How often did you meet with this child's regular teacher? _____

3. Was the regular teacher used in this child's treatment program?

_____ If yes, how used:

_____ Teacher served on a committee planning a whole program for this child.

_____ Teacher systematically performed follow-up program in class at your direction.

_____ Teacher occasionally used the child's LD activities in class.

_____ Teacher allowed child to do LD work in class independently.

4. Were any other school personnel used in the treatment of this child?

_____ State how used and how often:

School psychologist _____

Counselor _____

Principal _____

Other students _____

LD supervisor _____

Other (e.g., speech, reading, etc.) Specify: _____

E. Parents Coordination

1. Were the child's parents involved in this program? _____
2. How were they affiliated? Note frequency.
 - a. () _____ no contact with parents
 - b. () _____ written reports to parents of child's progress
 - c. () _____ phone calls to or from parents concerning child's progress
 - d. () _____ initial conference in which parents participated
 - e. () _____ follow-up conference in which parents participated
 - f. () _____ PTA activities in which parents participated
 - g. () _____ workshops in which parents participated
 - h. () _____ parents organized extracurricular activities (e.g., camps)
 - i. () _____ parents participated in local or state LD organizations
3. Did the parents carry out any coordinated treatment plan in the home? Describe.

4. What materials and equipment that you used with this child did you share with his or her parents?

D. Which of these evaluation tools was particularly helpful?

E. Which of these evaluation tools was notably not helpful?

F. Were any other school personnel used in the evaluation of this child's progress? State how used.

School psychologist _____

Counselor _____

Other students _____

LD supervisor _____

Regular classroom teacher _____

Other (e.g., speech, reading) Specify: _____

VI. RATING THE EFFICACY OF THE PROGRAM FACTORS

If this is a child for whom the program has produced a successful outcome, rank order the factors that facilitated that success (1 = most successful).

If this is a child for whom the program has produced an unsuccessful outcome, rank order the factors that were barriers to success (1 = biggest barrier).

- _____ Referral records
- _____ Diagnosis of LD areas
- _____ Methods of treatment
- _____ Materials used (or available)
- _____ Time spent with child
- _____ Child's motivation and learning style
- _____ Support of regular teacher
- _____ Support of other pupil personnel
- _____ Support of parents
- _____ Evaluation procedures

APPENDIX D

Table of Diagnostic Assessments

		Frequency by Groups	
Instrument	Total Frequency	Successful Outcome	Unsuccessful Outcome
I. Intelligence Tests			
WISC	35	18	17
Stanford Binet	5	3	2
Slossen	25	12	13
PPVT	14	7	7
Large Thorndike	3	2	1
PMA	1	1	0
California Test of Mental Maturity	2	1	1
II. Achievement Tests (grade equivalency and basic skills types)			
WRAT	17	9	8
PIAT	12	5	7
BESI (Math and Reading)	13	6	7
CTBS (Group)	6	3	3
IOWA (Group)	5	3	2
PPVT	1	1	0
SORT	15	9	6
SRA Reading Skills Assessment	4	3	1
MAT (Group)	4	2	2
California Reading Test (Group)	2	1	1
Woodcock Reading Mastery	2	1	1
Key Math	6	3	3
Mann-Suiter (Math, Reading)	3	2	1
Spache Phonics	2	1	1
Slingerland (Pre-reading)	3	1	2
Gates Reading Survey	2	1	1
III. Other (Psycholinguistic, Perceptual, etc.)			
ITPA	13	7	6
Frostig	4	2	2
Human Figure Drawing (Goodenough, Slossen)	5	3	2
Louisville Behavior Checklist	1	1	0
Slingerland Language Disability	4	2	2
Mann-Suiter Screening (Auditory and visual)	2	1	1

APPENDIX E

Disability Severity Index

The DSI provides ratings on a five-point continuum of the degree of disability displayed in each of the areas listed on the referral form. The LD teacher should complete the referral form after she has performed initial diagnostic procedures so as to have the best information available at the time of her rating. Thus, she can base her judgments on a variety of sources, e.g., teacher ratings, observations, diagnostic tests, previous psychological reports, etc.

The Disability Severity Ratings may be made by taking three factors into consideration. First, the LD teacher should note the number of skills in which the child performs below average, i.e., ratings of 1 or 2. Secondly, she determines whether the deficits result in an overall delay for that area of functioning. Thirdly, she should estimate the amount of time or effort on her part that might be required to deal with that particular area.

Thus, the ratings involve judgments about the number of specific skills that are affected, the impact of these deficits on overall performance in that area, and the amount of intervention that might be needed to overcome the problem. The following are some general guidelines for rating a given area:

1. No Significant Disability. No evidence of developmental delay or deficit was found which requires intervention.
2. Mild Disability. The identified disability was limited to a single area and relatively short-term intervention was planned, i.e., treatment by consultation only or two to eight weeks of small group intervention.
3. Moderate Disability. Disabilities were found in one or more basic skills which will require intervention on an individualized basis over a two to four month period.
4. Severe Disability. Disabilities were found in two or more skills which resulted in a general developmental delay in that area of functioning. The anticipated plan for intervention will require from four months to a year with periodic follow-up during the next school year.
5. Profound Disability. Disabilities were noted in all skill areas and intervention will require long-term special education services or more than a year of direct intervention.

Learning Disabilities Study 1975

for use with the Disability Severity Index

1	2	3	4	5
---	---	---	---	---

I. PHYSICAL ASPECTS

If there appears to be difficulty in this section, check FIRST with appropriate personnel (speech clinician, eye doctor, pediatrician, audiologist, etc.) before diagnosis for placement.

A. Hearing

does not hear; may read lips	occasional hearing diffi- culty, particu- larly in noise	usually hears adequately	hears well	hears excep- tionally well
---------------------------------	---	-----------------------------	------------	-------------------------------

B. Seeing

wholly or partially blind	below average sight; may rub or blink eyes	usually sees adequately	above average sight	sees unusually well; notices minute details
------------------------------	--	----------------------------	------------------------	---

C. Eye Control

often has irregular eye movements, dif- ficulty focusing	eyes regress when reading; loses place or repeats	eyes track smoothly from left to right, up & down	above average visual tracking	always has smooth tracking
---	--	--	----------------------------------	-------------------------------

D. Speech

unintelligible	articulation difficulties	average speech for age & grade	above average articulation	articulates unusually well
----------------	------------------------------	-----------------------------------	-------------------------------	-------------------------------

E. Muscle Control

extremely weak muscle control &/or stamina	sometimes lethargic	adequate strength & endurance for age & grade	above average strength & endurance	unusual strength & stamina
--	------------------------	--	--	----------------------------------

II. SELF HELP (Fill out if applicable.)**A. Using Utensils**

does not use utensils when eating	uses spoon	uses fork & spoon	uses fork & spoon; is learning to use a knife	uses knife, fork, & spoon
---	------------	----------------------	--	------------------------------

B. Eating Habits

is unable to feed himself	is untidy in the handling of foods	is tidy when eating under supervision	usually eats in acceptable manner	eats acceptably in all situations
------------------------------	--	---	---	--------------------------------------

C. Dressing

cannot manage any clothing	can manage most clothing except zipping & buttoning	can manage zippers & buttons	dresses self except for tying shoes	dresses self completely
-------------------------------	--	------------------------------------	---	----------------------------

D. Toilet Training

is unable to make needs known	able to make needs known; does not at all times	expresses needs but has occa- sional accident	expresses needs & avoids accidents	uses toilets properly without assistance
-------------------------------------	--	---	--	--

1 2 3 4 5

III. MOTOR

A. General Coordination: Running, Climbing, Hopping & Walking

very poorly coordinated; clumsy	below average; awkward	average coordi- nation for age	above average; does well in motor activities	exceptional ability
---------------------------------------	---------------------------	-----------------------------------	--	------------------------

B. Balance

very poor balance	below average; falls frequent- ly	average coordi- nation for age	above average; does well in motor activities	exceptional ability
----------------------	---	-----------------------------------	--	------------------------

C. Ability to Manipulate Utensils & Equipment: Manual Dexterity

very poor in manual manipulation	awkward in manual dexterity	adequate dex- terity for age; manipulates well	above average manual dexterity	excels; readily manipulates new equipment
--	-----------------------------------	---	--------------------------------------	---

IV. ORIENTATION

A. Judging Time

lacks grasp of the meaning of time; always late or confused	poor time con- cept; tends to dawdle; often late, can't judge length of day, week or month	average under- standing of time for age & grade	above average concept of time; prompt; late only with good reason	very skillful at handling schedules; plans & organizes well
---	--	--	---	--

B. Spatial Orientation

always confused; unable to navi- gate around the classroom or school, play- ground or neighborhood	frequently gets lost in rela- tively familiar surroundings	can maneuver in familiar loca- tions; average for age & grade	above average ability; rarely lost or confused	never lost; adapts to new locations, situations & places
--	---	--	---	--

C. Judgment of Relationships: Big, Little, Far, Close, Light, Heavy

judgment of relationships very inadequate	makes elemen- tary judgments successfully	average ability in relation to age & grade	accurate judg- ments, but does not generalize to new situa- tions	unusually pre- cise judgments; generalizes them to new situations
---	---	--	---	--

D. Learning Directions

highly con- fused; unable to distinguish directions; right, left, north, south, etc.	sometimes exhibits directional confusion	average; uses right vs. left, north, south, east & west appropriately for age & grade	good sense of direction; seldom confused	excellent sense of direction
--	---	--	---	---------------------------------

1 2 3 4 5

V. VISUAL PERCEPTION & COMPREHENSION

A. Discrimination

cannot discriminate simple shapes or objects	difficulty discriminating single letters	usually discriminates adequately for age & grade	above average visual discrimination	has excellent visual discrimination
--	--	--	-------------------------------------	-------------------------------------

B. Visual: Figure Ground Discrimination

cannot distinguish foreground object from background	difficulty discriminating items on a crowded page or noticing medial vowels in words	adequate ability to distinguish foreground from background or parts from whole	above average	unusual ability to separate figure from ground; shifts easily
--	--	--	---------------	---

C. Visual: Motor Integration

cannot coordinate eyes with hands or body	difficulty with visual motor integration (copying, catching ball, reproducing geometric designs)	adequate ability to coordinate eyes & hands for age & grade	above average ability to coordinate eyes & hands	unusual skill in this area
---	--	---	--	----------------------------

D. Ability to Recall Non-Meaningful Visual Information

cannot remember single letters, numbers, patterns seen	difficulty remembering one or more letters, numbers or patterns seen--particularly in order	usually remember letters, numbers or patterns seen	better than average ability to recall single items & sequences	has perfect visual recall of single items & sequences
--	---	--	--	---

E. Ability to Remember Meaningful Visual Information

cannot recall simple scenes or pictures	difficulty remembering multiple-item information in scenes, pictures, movies, etc., simple written directions; difficulty understanding visual format of work sheet	usually remember items in scenes, pictures, movies, written directions, etc.; associates adequately	above average ability to recall scenes, pictures, movies, written directions, etc.; associates adequately	remembers visual detail with unusual, can follow complete written directions
---	---	---	---	--

VI. AUDITORY PERCEPTION & COMPREHENSION

A. Auditory Discrimination

cannot distinguish similar or different words or ises	often cannot distinguish sounds of letters	average ability to distinguish phonics sounds for age & grade	above average auditory discrimination	has excellent ability to discriminate sounds
--	--	---	---------------------------------------	--

1	2	3	4	5
B. Ability to Follow Directions				
always confused; unable to follow directions	usually follows simple oral directions but often needs individual help	follows directions that are familiar &/or not complex	remembers & follows extended directions	unusually skillful in remembering & following directions
C. Comprehension of Class Discussions				
always inattentive &/or unable to follow & understand discussions	listens but rarely understands, mind often wanders from small group discussions--responds with inappropriate remarks	listens & follows discussions according to age & grade	understands well & benefits from discussions	becomes involved; shows unusual understanding of material discussed
D. Ability to Retain Information That He Hears				
almost total lack of recall; poor memory	retains simple ideas & procedures if repeated often	average retention of materials; adequate memory for age & grade	remembers procedures & information from various sources; good immediate & delayed recall	superior memory for details & content
E. Receptive Vocabulary				
extremely immature level of understanding	fails to grasp simple word meanings; misunderstands words at grade level	good grasp of grade level vocabulary	understands all grade level vocabulary as well as higher level words	superior understanding of vocabulary; understands many abstract words

VII. SPOKEN LANGUAGE

A. Ability to Speak in Complete Sentences Using Accurate Sentence Structure				
always uses incomplete sentences with grammatical errors	frequently uses incomplete sentences &/or numerous grammatical errors	uses correct grammar; few errors of omission or incorrect use of prepositions, verb tenses, pronouns	above average oral language; rarely makes grammatical errors	always speaks in grammatically correct sentences
B. Expressive Vocabulary				
always uses immature or improper vocabulary	limited vocabulary including primarily simple, few precise, descriptive words	adequate vocabulary for age & grade	above average vocabulary; uses numerous precise, descriptive words	high level vocabulary; always uses precise words to convey message; uses abstractions

1	2	3	4	5
C. <u>Ability to Recall Words</u>				
unable to call forth the exact word	often grasps for words to express himself	occasionally searches for correct words but adequate for age & grade	above average ability; rarely hesitates on a word	always speaks well; never hesitates or substitutes words
D. <u>Ability to Tell Stories and Relate Experiences</u>				
unable to tell comprehensible story	has difficulty relating ideas in logical sequence	average ability to tell stories	above average; uses logical sequence	exceptional; relates ideas in a logical, meaningful manner
E. <u>Ability to Formulate Ideas from Isolated Facts</u>				
unable to relate isolated facts	has difficulty relating isolated facts; ideas are isolated & incomplete; difficulty with riddles	usually relates facts into meaningful ideas adequate for age & grade	relates facts & ideas well	outstanding ability in relating facts appropriately

VIII. CONCEPTUAL SKILLS

A. <u>Abstractions</u>				
sees specifics in concrete form only	needs concretization much of the time	adequate ability for age & grade	above average ability to think in abstractions	is able to formulate & follow complex abstractions
B. <u>Creativity</u>				
generates little or no original response	difficulty generating ideas or originals	average ability to generate ideas for age & grade	above average ability to generate ideas	extremely fluent in production of ideas; imaginative
C. <u>Logical Thinking</u>				
always proceeds in trial & error fashion; seldom solves the problem	frequently proceeds by trial & error; sometimes achieves solution	adequate logical skills for age	frequently proceeds in logical way; good problem solver	always proceeds in a logical, organized fashion; excellent problem solver
D. <u>Conceptual Style</u>				
answers impulsively; makes many errors	somewhat impulsive; likely to make errors	takes a reasonable amount of time to respond; usually correct	somewhat reflective; below average error rate	carefully considers answers; responds accurately

IX. BEHAVIOR

A. <u>Cooperation</u>				
continually disrupts classroom; unable to inhibit responses	frequently demands the "spot light"; often speaks out of turn	waits his turn average for age & group	cooperates well; above average	cooperates without adult encouragement

1	2	3	4	5
B. <u>Attention</u>				
is never attentive; very distractible	rarely listens; attention frequently wanders	attends adequately for age & group	above average; almost always attends	always attends aspects; long attention span
C. <u>Ability to Organize</u>				
is highly disorganized; very sloven	often disorganized in manner of work; inexact, careless	maintains average organization of work; careful	above average ability to organize & complete work; consistent	always completes assignments in a highly organized & meticulous manner
D. <u>Ability to Cope with New Situations</u> (parties, trips, unanticipated changes in routine)				
becomes extremely excitable; totally lacking in self control	often over-reacts; new situations are disturbing	adapts adequately for age & grade	adapts easily & quickly with confidence	excellent adaptation, utilizing initiative & independence
E. <u>Social Acceptance</u>				
avoided by others	sometimes tolerated & sometimes avoided by others	liked by others; average for age & grade	well liked by others	sought by others
F. <u>Acceptance of Responsibility</u>				
rejects responsibility; never initiates activities	avoids responsibilities; limited acceptance of role for age	accepts responsibility; adequate for age & group	enjoys responsibility; above average; frequently volunteers	seeks responsibility; almost always takes initiative; enthusiasm
G. <u>Completion of Assignments</u>				
never finishes even with guidance	may finish but often needs much guidance	average ability to follow through on assignments	above average ability to complete assignments	always completes assignments without supervision
H. <u>Tactfulness</u>				
always rude	seems unaware of others feelings	average tactfulness; occasionally socially inappropriate	above average tactfulness; rarely socially inappropriate	always tactful; never socially inappropriate

X. SPECIFIC ACHIEVEMENT AREAS

A. <u>Reading</u>				
cannot read	decodes slowly or inaccurately; difficulty learning	adequate reading ability for age & grade; can work out words using phonics & context clues; understands what read	shows an interest in independent reading	reads far above grade level

1	2	3	4	5
B. <u>Writing</u>				
cannot grasp or manipulate pencil	can write name; sometimes reverses letters; messy writing, poorly formed letters sometimes illegible	shows average ability in forming all capital & small letters	shows above average ability in forming letters	shows unusual ability; writes or prints each letter clearly; can write sentences with punctuation
C. <u>Spelling</u>				
cannot identify letters	is able to spell a few one-syllable words; frequently misspells on spelling test & independent writing	shows average ability in spelling according to age & grade level	works independently when told to spell new words	spells far above grade level
D. <u>Arithmetic</u>				
does not identify numbers or relationships	below average ability in counting, computing, seeing mathematical relationships for age & grade	shows adequate ability for grade & age	understands all concepts of age & grade level	achieves far above grade level

Disability Severity Index

Disability	Severity				
	None	Mild	Mod	Sev	Pro
1. Physical Development	1	2	3	4	5
2. Self Help (e.g., dressing, personal hygiene)	1	2	3	4	5
3. Motor Development	1	2	3	4	5
4. Visual Perception	1	2	3	4	5
5. Auditory Perception	1	2	3	4	5
6. Memory (visual and auditory)	1	2	3	4	5
7. Spoken Language	1	2	3	4	5
8. Conceptual Skills	1	2	3	4	5
9. Personal/Social Behavior	1	2	3	4	5
10. Specific Achievement (e.g., math, reading, spelling, etc.)	1	2	3	4	5
11. Orientation skills (relationships, time and space, etc.)	1	2	3	4	5

Number of disability areas _____

Total severity rating ____/11 = \bar{X} severity rating _____

Severity index = number areas x \bar{X} rating = _____

APPENDIX F

METHODS AND MATERIALS USED WITH MOST SUCCESSFUL CASES¹Physical Development

1. Monterey Speech Program
2. Speech sounds--teacher talking into tape recorder, leaving out ending sounds which child supplies
3. Pictures to elicit different speech sounds
4. Eye movement--eye following ball swinging from string
5. Use of frame for tracking
6. Worksheets with tracking exercises

Motor Development

1. Pegboards
2. Cutting
3. Sewing cards
4. Pasting
5. Balance beam
6. Hoops
7. Balls
8. Bean bag toss
9. Basketball toss
10. Throwing
11. Catching

Visual Perception

1. Goal (kit of perceptual activities)
2. DLM cards (for visual discrimination)
3. Frostig materials
4. Aims Pre-Reading Program (including visual discrimination activities). Continental Press
5. Dexter and Westbrook. We Read Sentences (kit including Dolch word activities)
6. SRA Learning to Think Series
7. Dolch sight word activities
8. Framing to limit words
9. Asking child to "look again" at words in math problems and to compare "what" and "that" and other similar words
10. Filmstrip with visual discrimination exercises
11. Worksheets with visual discrimination exercises (e.g. matching, discrimination of likenesses and differences)
12. Overhead projector (use of transparency with likenesses and differences)
13. Tachistoscope
14. Typewriter
15. Language master

¹This list, though not exhaustive, is representative of the materials and methods mentioned by teachers.

16. Parquetry blocks
17. Pegboards
18. Puzzles
19. Geoboards
20. Hidden pictures (e.g., pictures in Highlights magazine)
21. Maze games and activities

Auditory Perception

1. Peabody articulation cards
2. Tapes Unlimited (identification of animal sounds with background noises)
3. Unnamed records, tapes of sounds for sound discrimination
4. Educational Corporation of America tapes for auditory perception
5. Singer vowel tapes
6. Semel. Sound, Order, Sense. Follett
7. Sounds in Neighborhood (record on sound discrimination)
8. SRA Listening Skill Builder Tapes
9. Activities with key words from Stern Multi-Sensory Structural Reading Series
10. Listening exercises (records, tapes) with worksheets
11. Background noise (radio, recorded music) while child is working
12. Tape with oral directions to follow
13. Various auditory discrimination exercises with sounds of letters and words
14. Sound games
15. Additional phonics activities. See Phonics in Reading section.

Memory

1. Teacher taping directions for child to follow after tape recorder turned off
2. Listening to tapes; turning off recorder and writing down what was on tapes (e.g., what teacher said, number of dots and dashes)
3. Teacher hiding objects to determine if child can remember names of objects or can put them back in right order
4. DLM cards (for memory)
5. SRA Learning to Think activities
6. Educational Corporation of America tapes on auditory memory
7. Peanut Butter Boy (listening to record and then filling out worksheet)
8. Oral directions for work
9. Oral message for child to take to another teacher
10. Teacher writing directions on paper; child reading directions, putting paper down, and following directions
11. Writing book reports to reinforce memory of book
12. Reviewing (from memory) activities of previous day
13. Memory of key words from Stern Multi-Sensory Reading Series
14. Recalling information in filmstrip, after it is viewed (e.g., filmstrip on folktale classic)

15. Color coding cards
16. Listening to teacher read or tell stories; then answering questions on stories

Spoken Language

1. Monterey Speech Program
2. Peabody Language Development Kit
3. Creating an environment in which child is free to talk to teacher, and in which teacher listens to him talk
4. Telling stories into a tape recorder (either child's own story or retelling a story he has heard)
5. Using a sequence of pictures to tell a story
6. Discussing a story child reads
7. Discussing filmstrips, films, and social studies activities
8. Taking a field trip and discussing that field trip
9. "Complete the sentence" exercises (child finishes sentence teacher began)

Conceptual

1. Math instruction (development of math concepts)
2. Listening to stories and records (meaning of words and concepts)
3. Looking at social studies filmstrips
4. Walking through school and neighborhood and making maps (map concepts)

Personal / Social Behavior

1. Behavior modification
2. Engineered classroom
3. Role playing
4. Contracts
5. One to one (teacher-child) discussion of child's problems and feelings
6. Group discussion of feelings and problems
7. Reality therapy
8. Pupil correcting his own work
9. Gradually increasing length of task
10. Responsibilities in learning disabilities group activities (e.g., showing filmstrips, making reports)

Specific Achievement

Math

1. Math worksheets (teacher-made or unnamed commercial sheets)
2. Concrete math aids (e.g., Stern rods, markers, candy bars for fractions, pegs, tokens)
3. Math games
4. Laidlaw math book
5. DLM Moving Up in Numbers
6. Letting child work on assignments from regular classroom
7. Merrill tapes and worksheets on basic facts
8. Letting child make up own math problems

9. Letting child read math problems into tape recorder; then helping child break problems into small segments (whole-part method)
10. Peer teaching
11. Flash cards
12. Number line
13. Magnetic number board
14. Language master math cards
15. Books on numbers and other math concepts (e.g., All about Ten by Tarmac)

Reading

1. High interest, low level readers (including Phoenix Reading Series; Granowsky Readers; Webster New Practice Readers; Modern Curriculum Press Library Readers; Basic Reading Series Satellites--SRA folders; Checkered Flag Series)
2. Basal developmental readers (e.g., Ginn)
3. Stern Multi-Sensory Structural Reading Series. Random House
4. Merrill Linguistic Readers
5. Boning. Specific Skills Series--Barnell-Loft
6. Library books and magazines
7. Corrective Reading Program. Engelmann-Becker Press
8. Macmillan Decoding for Reading
9. Imperial Intermediate Reading Program
10. McCall-Crabbs books (timed reading material)
11. Distar
12. SRA Reading Laboratory
13. Readers Digest Skill Builder Series
14. Peanut Butter Boy (booklets with records and worksheets)
15. Hoffman Reader
16. Wildlife Series
17. Dolch word activities
18. SRA Learning to Think
19. Aims Pre-Reading Program. Continental Press
20. Supplementary readers which accompany Stern Multi-Sensory Structural Reading Series
21. Other supplementary readers
22. My Weekly Readers
23. Dictionary
24. Independent silent reading and answering questions
25. Stories on records
26. Listening to teacher read a story
27. Oral reading
28. Making stories from words on cards
29. Dictation by teacher using words child can't read
30. Reading stories into tape recorder
31. Some variation of language experience approach to reading (including experience stories; key word vocabulary; Fernald tracing approach--VATK; child talking into tape and teacher transcribing; creative writing as an approach to reading)
32. Word box for words child knows or doesn't know
33. Language master

34. Tachistoscope
35. Filmstrips
36. Comic books
37. Left to right activities (reading readiness)
38. Ideal readiness worksheets
39. Milton Bradley reading readiness worksheets
40. Other reading worksheets (either teacher-made or publisher not named)
41. Reading games
42. Spice Rescue Series (teacher's manual on reading games and activities)

Phonics in Reading

1. Phonics We Use. Lyons and Carnahan
2. Aims Phonics Program
3. SRA Schoolhouse (a word attack skills kit)
4. First Experiences in Phonics with Vowels and Consonants (kit including records). McGraw-Hill
5. Bremner-Davis. Sound Way to Easy Reading (charts and records)
6. Milton Bradley tapes and worksheets on sounds
7. Phonics Is Fun Program
8. Makar. Primary Phonics
9. Scholastic Phonics Series
10. Ideal Magic Cards (on phonics)
11. Continental Press worksheets
12. Other phonics worksheets (teacher-made or publisher not named)
13. Phonics games (e.g., Lyons and Carnahan "Spin a Sound" game)
14. Other unspecified activities mentioned as "phonics" by teachers
15. Materials made by child (e.g., phonics wheels and sandpaper letters)

Spelling

1. DLM spelling program
2. Fernald approach (VATK)
3. Tactile approach other than Fernald (e.g., sandpaper letters, modelling clay letters, and making letters in sand)
4. Dolch word list
5. Teacher-directed activities on syllabication
6. Phonics
7. Blocks with letters on them
8. Spelling games

Handwriting

1. Marking pencil with tape to help child with hand position
2. Writing letters with crayons and finger paints
3. Switching to cursive
4. Tactile, tracing approach (using sandpaper or clay letters; writing in salt)
5. Ballet as a kinesthetic approach to writing

Orientation

1. Use of colors (i.e., green, red) to designate places to start and stop on line in reading or in math computation
2. Drawing map of school and neighborhood after walking through these areas (direction)
3. Use of clock to teach clockwise and counter clockwise

Equipment

1. Tape cassette recorder with earphones
2. Record player with earphones
3. Filmstrip projector
4. Tachistoscope
5. Typewriter
6. Language master
7. Overhead projector
8. Radio
9. Film projector

METHODS AND MATERIALS USED WITH LEAST SUCCESSFUL CASES¹

Physical Development

1. Monterey Speech Program
2. Following pencil with eye (eye movement or tracking)
3. Watching hand move in circle or watching movement of ball (eye movement or tracking)
4. Frostig program
5. Other workbooks and worksheets with tracking exercises
6. Sandpaper, clay letters (tracking)
7. Pathway School Program

Self-Help

1. Lacing cards
2. Putting clothes on dolls
3. Tying shoes

Motor Development

1. Vallett. Gross Motor Program. Fearon Publishers
2. Vanguard School Programs (on body awareness, visual motor integration). Teaching Resources, Inc.
3. Pathway School Program
4. Bilateral gross motor exercises
5. Rolling
6. Catching
7. Throwing
8. Kicking
9. Hopping
10. Running
11. Skipping
12. Jumping rope
13. Hitting target
14. Walking line
15. Hitting ball with rolling pin
16. Balance beam
17. Tiltboard
18. Balls
19. Bats
20. Bean bags
21. Tires
22. Lacing cards
23. Picking up sticks
24. DLM pegboards
25. Games for fine motor coordination (e.g., game with clothespins)

¹This list, though not exhaustive, is representative of the materials and methods mentioned by teachers.

Visual Perception

1. Vanguard School Program (on visual motor integration). Teaching Resources, Inc.
2. Erie Program. Perceptual Motor Teaching Materials. Teaching Resources, Inc.
3. Frostig materials
4. SRA Learning to Think Series
5. DLM cards
6. Dolch sight word activities
7. Sight word activities from Stern Reading Series
8. Word boxes for sight words child knows and needs to learn
9. Color coding for reversals
10. Identification of reversals on worksheets and on blackboard
11. Commercial "dot to dot" coloring books
12. Tracking activities (lines in workbooks; an unpublished technique designed by optometrist, etc.)
13. Noting details in objects in room and matching objects
14. Tracing letters (tactile approach including writing in sand and on carpet; tracing sandpaper letters, wooden letters, and flock letters)
15. Worksheets with visual discrimination exercises (e.g., discrimination of likenesses and differences, matching)
16. Tachistoscope
17. Language master
18. Parquetry blocks
19. Dunlop pattern board
20. Pegboards
21. Geoboards
22. Maze games and activities
23. Other visual perception games (e.g., dominoes, matching shapes, hidden words, checkerboard games)
24. Hidden pictures for figure-ground activities (e.g., pictures found in Highlights magazine, DLM materials)
25. Puzzles

Auditory Perception

1. Peabody articulation cards
2. Sounds in Neighborhood (record on sound discrimination)
3. Sounds I Hear (record with pictures on sounds in environment). Scott Foresman
4. Record of environmental sounds in Peabody Language Development Kit
5. Tapes Unlimited (identification of animal sounds with background noises)
6. Unnamed records, tapes of sounds for sound discrimination
7. Teacher making sound (e.g., dropping a book) and child identifying sound
8. NWM auditory perception activities (related to ITPA)
9. Educational Corporation of America tapes for auditory perception
10. DLM tapes with worksheets
11. Semel. Sound, Order, Sense. Follett

12. SRA Listening Skill Builder Tapes
13. Boning. Specific Skills Series (book on sounds). Follow
14. Read On tapes and worksheets (sounds of letters)
15. Singer vowel tapes
16. Activities with key words from Stern Multi-Sensory Structural Reading Series
17. Background noise (radio, records, tapes) while child is working
18. Teacher taping directions for child to follow while listening to tape (e.g., marking worksheet)
19. Mr. High Hat Kit (stories emphasizing words with certain sounds)
20. Language master (listening to sounds)
21. Various other auditory discrimination exercises (e.g., repeating "same" or "different" after hearing pairs of sounds of letters or words; using tapes and ear-phones for other activities)
22. Sound games (e.g., matching sounds; Lyons and Carnahan "Spin a Sound" game)
23. Additional phonics activities. See Phonics in Reading section.

Memory

1. Teacher taping directions for child to follow after tape recorder turned off
2. Listening to tape; turning off recorder and writing down number of dots and dashes heard on tape
3. Taping message for child to take orally to another teacher
4. Teacher saying sentence or clapping; child repeating teacher's words and/or actions
5. Teacher reading math problems to child who needs to remember what teacher said in order to work problems
6. DLM cards for memory
7. Oral directions for work
8. Memory of key words from Stern Multi-Sensory Reading Series
9. Recalling information in filmstrip, after it is viewed (e.g., filmstrip on folktale classic)
10. Sight word activities
11. Fernald VARK approach
12. Tactile, tracing approaches other than Fernald (writing on screen or carpet; tracing sandpaper, felt, and flannel letters and numbers)
13. Feel boxes (pupil identifying concrete objects, numbers and letters inside the box through their feel and shape)
14. Teacher hiding objects to determine if child can remember names of objects
15. Color coding cards
16. Tachistoscope
17. Listening to teacher read or tell stories; then answering questions on stories orally or on worksheets

Spoken Language

1. Monterey Speech Program
2. Creating an environment in which child is free to talk,
and in which teacher listens to him talk
3. Telling a story from pictures the child has sequenced
4. Discussing a story child reads
5. Show and tell

Conceptual

1. Concrete aids to teach math concepts
2. Listening to the teacher read or tell stories to pupils
3. Studying plants
4. Taking field trips
5. Listening to records
6. Looking at social studies and other filmstrips
7. Looking at films
8. Walking through school and neighborhood and making maps
9. Repeating in a logical form a jumbled direction

Personal/Social Behavior

1. Behavior modification
2. Engineered classroom
3. Contracts
4. Group discussion of feelings and problems
5. One to one relationship with child (including listening
to child and discussing his problems and feelings)
6. Reality therapy
7. Play therapy
8. Pupil correcting and grading his own work
9. Responsibilities in learning disabilities group activities
(e.g., showing filmstrips, taking notes to office)
10. Shortening assignments so that child can complete them
(attention span)
11. Notebook of assignments in math; checking and rewarding
pupil when assignments completed
12. Discussion with child on how to organize his work
13. Sharing games with pupil's regular class as a reward for
pupil completing his work
14. Timing work with a timer (completing assignments)

Specific AchievementMath

1. Step by Step math worksheets
2. Other math worksheets (teacher-made or unnamed commercial
worksheets)
3. Math concepts in Peabody Language Development Kit

4. Teacher use of supplementary math books to get ideas for lessons
5. Letting child work on assignments from regular classroom
6. Child making big paper footsteps with numbers to put on floor and use for addition
7. Constant review
8. Tracing numbers (e.g., using sandpaper, flannel, felt numbers)
9. Copying numbers
10. Math games (e.g., dominoes, "Heads Up Math")
11. Concrete aids (e.g., measuring cups, candy bars for fractions, sticks, tongue depressors, pegs, play money)
12. Magnetic number board
13. Number line
14. Clock for telling time
15. Books on numbers and other math concepts (e.g., All about Ten by Tarmac)

Reading

1. High interest, low level readers (including Dan Frontier Series; Checkered Flag Series; Granowsky Readers)
2. Basal developmental readers (e.g., Ginn)
3. Stern Multi-Sensory Structural Reading Series. Random House
4. Merrill Linguistic Readers
5. Boning, Specific Skills Series. Barnell-Loft
6. Edmark Program (sight word program)
7. Bowmar Reading Series
8. Scholastic Go Series (worksheets with stories in content areas, such as social studies, science, etc.)
9. Supplementary readers which accompany Stern Reading Series
10. Other supplementary readers
11. McCall-Crabbs books (timed reading material)
12. Skill Text Comprehension Series. Merrill
13. SRA Reading Laboratory
14. Love's Successful Learning Kit
15. Peanut Butter Boy (booklets with records and worksheets)
16. Distar
17. McGraw-Hill Practice Readers
18. Readers Digest Skill Builder Series
19. Hoffman Reader
20. Aims Pre-Reading Program. Continental Press
21. Oral reading to teacher or/and to other children
22. Silent reading for comprehension
23. Some variation of language experience approach to reading (including Fernald tracing approach--VATK; experience stories; typing; use of blackboard for big writing and reading)
24. Word boxes for words child knows
25. Dolch word activities (including flash cards, contests on sight words, other games, etc.)

26. Activities (e.g., showing magazine pictures) to build meaningful associations for reading words
27. Emphasis on visual patterns in words
28. Use of card to frame words in reading material
29. Tachistoscope
30. Language master
31. Library books (e.g., Dr. Seuss books)
32. Continental Press Reading-Thinking Skills worksheets
33. Ideal readiness worksheets
34. Milton Bradley readiness worksheets
35. Other reading worksheets (either teacher-made or publisher not named)
36. Reading games

Phonics in Reading

1. Bremner-Davis. Sound Way to Easy Reading (charts and records)
2. Aims Phonics Program
3. Milton Pradley tapes and worksheets on sounds
4. Phonovisual
5. First Experiences in Phonics with Vowels and Consonants (kit including records). McGraw-Hill
6. Phonics We Use. Lyons and Carnahan
7. Scholastic Phonics Series
8. Ideal Magic Cards (on phonics)
9. Use of pictures of objects beginning with certain sounds
10. Phonics worksheets (teacher-made or publisher not named)
11. Phonics games (e.g., Lyons and Carnahan "Spin a Sound" game)
12. Other unspecified activities mentioned as "phonics" by teacher

Spelling

1. Learning some words from basal readers
2. Using blocks with letters on top to spell words
3. Tactile, tracing approach (writing in salt, sand; tracing on templates; tracing letters made of sandpaper, pipe cleaners, flannel, other materials)
4. Class speller
5. Phonics worksheets
6. Spelling bees
7. Spelling games (e.g., Kenworthy Dog House Game)
8. Typing
9. Word family notebooks

Handwriting

1. Teaching of cursive writing
2. Use of blackboard for big writing and reading
3. Use of magic markers and large paper for big writing
4. Handwriting with Write and See. Lyons and Carnahan
5. Tactile, tracing approach (writing in salt, sand, shaving cream; tracing on templates or sandpaper letters; two-colored ink tracing method)

Orientation

1. Marking objects with color to indicate left and right
2. Ideal Body Image Laterality with worksheets
3. Giving child map of school so he can find learning disabilities room (directions)
4. Simon Says game for directions (for left, right, up, down, etc.)
5. Other games on left, right, time, etc.
6. Clock (for time)

Equipment

1. Tape cassette recorder with earphones
2. Record player with earphones
3. Filmstrip projector
4. Tachistoscope
5. Typewriter
6. Language master
7. Film projector
8. Radio

METHODS AND MATERIALS TEACHERS LISTED AS
PARTICULARLY USEFUL IN WORKING WITH MOST SUCCESSFUL CASES

<u>Motor Development</u>	<u>Number of Teachers</u>
1. Pegboards, cutting, pasting (fine motor)	1
<u>Visual Perception</u>	
1. Filmstrip on visual discrimination, with worksheet	1
<u>Auditory Perception</u>	
1. Tapes by Educational Corporation of America on auditory perception, memory, discrimination	1
2. Peabody articulation cards	1
<u>Conceptual</u>	
1. Social studies filmstrips	1
<u>Personal/Social Behavior</u>	
1. Behavior modification	2
2. Role playing of problems	1
3. Small group permitting special attention to child	1
4. Individual contract	1
<u>Specific Achievement</u>	
<u>Math</u>	
1. Using a relaxed, informal "fun" approach to the teaching of math	1
2. The use of concrete aids	1
<u>Reading</u>	
1. Phonics	3
2. Dolch word activities	2
3. Stern Multi-Sensory Structural Reading Series	2
4. Readers, high interest, low level (including Dan Frontier Series and Checkered Flag Series)	2
5. Tapes from Imperial Intermediate Reading Program	1
6. Macmillan Decoding for Reading	1
7. Distar	1
8. Readers Digest Skill Builder Series	1
9. Milton Bradley tapes on sounds	1
10. Bremner-Davis. Sound Way to Easy Reading (charts and records)	1
11. Oral reading in basal developmental reader	1

Number of Teachers

- | | |
|--|---|
| 12. Visual approach to reading (e.g., word patterns, families) | 1 |
| 13. Key word vocabulary method in reading | 1 |
| 14. Left to right activities (reading readiness) | 1 |
| 15. Materials child made himself (such as phonics wheels used in reading activities) | 1 |
| 16. Reading games | 1 |

Spelling

- | | |
|---|---|
| 1. Fernald approach (VATK) in spelling | 1 |
| 2. Teaching spelling through syllabication activities | 1 |

Equipment

- | | |
|---------------------------|---|
| 1. Tape cassette recorder | 3 |
| 2. Filmstrip projector | 1 |
| 3. Tachistoscope | 1 |
| 4. Language master | 1 |

METHODS AND MATERIALS TEACHERS LISTED AS
PARTICULARLY USEFUL IN WORKING WITH LEAST SUCCESSFUL CASES

<u>Motor Development</u>	<u>Number of Teachers</u>
1. Balance beam, balls, jump rope, tires	1
<u>Visual Perception</u>	
1. Puzzles	1
2. Frostig program	1
3. Parquetry blocks	1
<u>Auditory Perception</u>	
1. Records of sounds (for sound discrimination activities)	1
2. Background sounds from radio or record while child is working	1
<u>Memory</u>	
1. Commercial tapes of dots and dashes (child reproduces dots and dashes on paper after listening to tape)	1
2. Any method using visual memory	1
<u>Personal/Social Behavior</u>	
1. One to one discussion of personal problems	1
2. Behavior modification using tokens	1
3. Tasks in which child evaluates himself	1
<u>Specific Achievement</u>	
<u>Math</u>	
1. Whole-part method in math word problems (breaking up problems into small segments)	1
2. Use of concrete materials	1
3. Number line	1
4. One to one relationship between teacher and child in math instruction	1
5. Math games	1
6. Blackboard work	1
<u>Reading</u>	
1. High interest, low level readers (including Dan Frontier Series and the Checkered Flag Series)	2
2. Dolch word activities	2

	<u>Number of Teachers</u>
3. Phonics	1
4. Bremner-Davis. Sound Way to Easy Reading (charts and records)	1
5. Teacher-made reading worksheets built on child's strengths	1
6. Key words from Stern Multi-Sensory Structural Reading Series	1
7. Teacher-made reading games	1

Handwriting

1. Tracing	1
------------	---

Equipment

1. Tape cassette recorder	2
2. Language master	1
3. Typewriter	1

APPENDIX G

A STUDY OF THE
CATEGORICAL LEARNING DISABILITIES
PROGRAM
IN
NORTH CAROLINA SCHOOLS
1974 EXECUTIVE SUMMARY

Anne Borders-Patterson

Wain Mengel

Janine Huff

James J. Gallagher

1974
EXECUTIVE SUMMARY

Status Report on State Supported Learning Disabilities Programs

This executive summary highlights the major findings of the survey on the learning disabilities program conducted by staff members of the Frank Porter Graham Child Development Center under a contract with the Division of Exceptional Children in the State Department of Public Instruction.

The background of this survey was as follows. In 1973, the North Carolina General Assembly passed enabling legislation to increase support of special education programs for children with learning disabilities. Under that legislation fifty teaching positions were provided to school systems to deliver special services for learning disabled children.

This study was contracted by the State Department of Education to provide information regarding the students, the teachers and their training, the content of the programs, describes some promising program components and the role of the various supportive and interacting educational services connected with the learning disabilities program

Procedure of Survey

The data which comprised the body of the report were collected through the design and analysis of a questionnaire sent to the forty-eight teachers employed in the learning disabilities program, and the on-site interviews held with the educational staff from thirty of these programs. The professionals interviewed included principals, directors of special education, and regular class teachers. In addition, a special attempt was made to interview persons who could provide insight into promising components of programs.

Findings

The findings reported in this summary are arranged to provide the busy reader with quick access to the most important information with regard to the children and teachers in the program, the nature of the program itself, and the relation of the program to other elements in the school. The complete text of the report follows this summary.

Children

The following represents some of the major findings regarding the population of learning disabled children currently enrolled in these learning disabilities programs across the state.

- (1) There were four times as many boys as girls in the program.
- (2) Blacks make up slightly more than 21 percent of the program membership, less than their proportion in the population of North Carolina.
- (3) The programs are focused at the elementary school level and seem clearly designed to identify and serve children in academic trouble in the second through sixth grade.
- (4) Children in these programs had not previously received special service and were not transferred from other special educational programs when this program began.
- (5) There is a wide range of intellectual ability among the students and, contrary to program guidelines, a number of children of below average intelligence are being referred into this program.

There remains much confusion about the proper identification of learning disabled children, and many of the teachers believe that a number of the children have been misplaced.

Identification and Referral Procedures

The predominant source for referral of children to this program remains the classroom teacher, although parents and principals play an important role. As required by the state guidelines, intelligence tests, achievement and academic history data also play a major role in the diagnosis of the learning disability. Specific medical and physical examinations play a much lesser role. In the process of referral identification and assessment, the schools appear to have made valiant effort to live up to state guidelines, failing only when resources such as school psychologists are not in adequate supply.

Program

Forty-eight of the fifty categorical allotments were implemented at the beginning of the 1973-74 school year. Of that number twenty-one programs were of the resource room variety, i.e. the child remains assigned to the regular classroom for the majority of the time but will leave that program at regular intervals to go to a resource room for special lessons designed by the learning disabilities teacher.

Another eleven units used the itinerant teacher approach. In this situation, traditionally the itinerant teacher is assigned more than one school, and the child leaves the regular classroom and goes to space assigned the itinerant teacher for remedial work.

Only three schools adopted a self-contained classroom strategy. That is, where the learning disability children were assigned to the special class full time and were the full responsibility of the learning disability teacher. The remaining programs were mixtures of the three strategies noted above.

The vast majority of the programs have tried to keep the child in as "normal" a school program as possible. The itinerant and resource room concepts have that advantage but do not allow for as intensive a remedial effort as does the self contained program. Much of the success of the itinerant and resource programs rely on how thoroughly the remedial program is interwoven with the regular educational program.

The Learning Disabilities Teacher

The teachers participating as learning disability specialists are a well educated group with over 40 percent having at least a master's degree. About 60 percent come from specific backgrounds in elementary or special education. Over 90 percent of the teachers were women and white, and over half were under twenty-six years of age, averaging about four years' teaching experience. Prior to this particular program experience none of them had ever taught in a learning disabilities program.

During the first year of the program, the learning disabilities teachers saw an average of 19.5 students regularly, each about four times a week. Major goals in teaching included remediating specific areas of disability and establishing a good self concept and positive motivation in the child. Teachers were eager to meet each child's individual needs but found some difficulties due to their limited range of competencies and their lack of special training. Since most learning disabilities teachers felt more competent in teaching reading skills, they spent a large part of their time teaching these skills.

The teachers had a variety of tasks in addition to instructing the learning disability child. They administered most of the diagnostic testing, and educated other faculty and staff about the learning

disabilities program goals and strategies, and tried to keep lines of communication open with parents of the learning disabilities children.

One of the major teacher concerns relates to the 1977 state deadline for certification. Teachers are confused as to what they are expected to do and how they are to meet certification requirements.

These learning disabilities teachers report that the most frustrating aspect of their job has been establishing good working relationships with the regular classroom teacher. Since a majority of the programs are of the itinerant or resource format, the relationship between the special teacher and the regular teacher is crucial to their effective operation of the program.

At the present time, the teachers are calling for greater training and support resources both for themselves and for the administrators and regular classroom teachers. They are concerned that some of the children are misplaced in the program.

It is clear from the responses that the learning disability specialists are not isolated in the school program. To the contrary, there seem to be numerous contacts between the special teacher and principals, supervisors and other specialists who work with problem children. Learning disabilities teachers are also significantly involved in decisions affecting the child's future education. There is a strong need for greater and more specific role definition on the part of the state in order to help teachers in their interrelationships with the other professional people in the educational program.

Supportive Services

In addition to the various educational personnel interacting with the learning disabilities program, there are a variety of major

supportive services which are designed to strengthen the state program. These include demonstration centers designed to illustrate exemplary educational practices with learning disability youngsters, periodic training workshops sponsored at the state or regional level, regional consultants who provide general support in one or more of the state's eight regions in special education, and, finally, three university training programs in the field of learning disabilities. These services were designed on the well founded belief that a new program would need a variety of support and assistance in getting underway.

There are four demonstration centers now operating in North Carolina in Shelby, Winterville, Cameron, and Salisbury. It is apparent from the results that the demonstration centers when visited are rated highly by the teachers. However, only slightly more than half of the teachers have had contact with the demonstration centers, and in some areas of the state much less than half.

Learning disabilities teachers were generally not enthusiastic about regional workshops that were designed to provide them with methods and materials for use in teaching learning disabled children. They felt that the workshops were too short and often inappropriate. While they appreciated the materials and the opportunity to meet with colleagues, they wanted more practical materials and more knowledgeable speakers.

The regional consultants varied in their attitudes about their role in the learning disabilities program. Some see it as interpreting state policy and working with school administrators to clarify guidelines and program objectives. Others see their role as including the development of materials and working directly with the classroom teachers in improving

their skills and performance. The regional consultants' duties carried over into the field of special education, and they felt that this extra demand on their time, as well as the extensive travelling they had to do, diminished their effectiveness for the learning disabilities programs. The consultants, like the teachers, felt that there should be more specific guidelines regarding the direction of the program. Most wished they could spend more time working with teachers in the classroom and felt the lack of their own training and background in this field.

Three universities, Appalachian State University, East Carolina University, and the University of North Carolina at Chapel Hill, have established programs at the master's level for training teachers and supervisors in learning disabilities and for developing in-service teacher training. The university programs were also designed to be linked with the effort of the demonstration centers, and this linkage should provide strength to both programs. At the present time there seems to be little or no communication among the three university training programs. There are also mixed views as to the quality of the university learning disability programs and concern that their faculty cannot always provide the necessary expertise and instruction.

The parents of the learning disabilities children are expected to play an important part in the program. By far, the most common means of communication between teacher and parent is the standard parent-teacher conference, supplemented by written notes and telephone conversations. Less frequent are home visits by the teacher in specific cases. In some instances, parents have been active in supporting the program in general and in volunteering as aides for classroom support.

Regular Classroom Teachers

An important component of the program is the regular classroom teacher who spends the most time with the learning disabled child. In the itinerant and resource room program, the child will probably spend four or five times more time in the regular program than in the special program activities. There is a general feeling that in many instances the regular teacher does not fully understand the program and often abdicates responsibility for the child's instruction to the learning disabilities specialist. In short, they maintain that the specialist ought to have the responsibility; they do not have the time or knowledge to deal with the difficult problems. Such an attitude is a serious hindrance to the full-fledged development of an effective program and needs to receive special attention. The regular classroom teachers have received minimal training (some have not even attended workshops) in learning disabilities. A few have learned much about the learning disabled child from the learning disabilities specialists themselves.

Networks of Professional Interaction

The learning disabilities specialist operates within a complex network of interaction with other educators. Predominant among these are principals, directors of special education or elementary education, and superintendents.

Superintendents who were interviewed were positive about the program, but more than half said they could not afford to support it from local funds. There appears to be a generally effective and positive relationship between supervisors and the learning disabilities specialists. The administrators are particularly helpful in management issues such as scheduling, requests for supplies and equipment, and

general coordination activities. Few are able, though, to provide detailed instructional support to the learning disabilities teachers. The teachers, in turn, expressed a wish for the supervisors to learn more about the field.

In a similar fashion, although the principals have not played an important role in the initiation of the program, they have generally accepted it very positively. They provide minimal counsel on educational issues but are an important source of general administrative support and encouragement.

In North Carolina, as in other states, there is some confusion regarding where the role of the learning disabilities specialist ends and the role of others such as the reading or speech and language therapists begins. There appears to be an unusually positive relationship between the learning disabilities teachers and these other specialists, with over 80 percent of the teachers considering the specialists' assistance to the learning disabilities program as good or excellent. This is an unusual finding in an area where disputes over territorial rights are common.

Recommendations

The overall impression from the survey was that the learning disabilities programs are off to a good start and are well received by the school systems in which they operate. Many educators in the systems commented about the impact the program is having on the total school program. In particular, teachers, administrators and others are much more aware of varying teaching strategies for children to enhance learning. The learning disabilities program has crystalized the need for individual differences in the planning and in the teaching of all children.

The first year of such a program often is a honeymoon period where

many issues are overlooked because of the program's newness. It is unlikely that a similar positive atmosphere will exist a year from now unless certain additional steps are taken. The recommendations that follow represent the judgement of those deeply involved with the program and of the study team on some of these needed steps.

Training

This learning disabilities program has already committed more of its resources to training than many new programs. This money appears to have been generally well spent. The recommendations are for more and broader training efforts that will touch the many different personnel involved.

1. The training of the regular classroom teachers who work with the learning disabled child directly should be increased to help them understand the learning disabilities program, and to provide them with special techniques. They need to be able to participate actively in the program and not passively expect the learning disabilities teacher to carry the major instructional program responsibilities.
2. Administrators (principals, superintendents, etc.) should receive a special brief training orientation so they can become familiar with the objectives and procedures of the program and can provide the appropriate level of administrative support needed by those who work directly with the children.
3. The training programs for learning disabilities teachers should, the teachers believe, show an increased emphasis on instructional materials and remedial procedures, with less emphasis on theory and diagnosis.
4. There should be a training curriculum committee activated immediately made up of university program directors, teachers and parents to try to agree on the type and nature of training programs needed to develop professional expertise in this field.
5. The State Department of Public Instruction should issue a clear and definitive document stating the requirements for certification in this field. Such a document should

clearly show the variety of avenues open to teachers to achieve the necessary certification.

Selection and Referral

Many persons connected with the current program wonder if the right children are receiving the remediation. Others are confused about just who the target group should be and about the procedures used to identify them. Hence the following recommendations:

1. The primary method of identification should focus on educational deficits rather than physical and health measurements. The comprehensive examination touching on medical neurological, educational assessment, etc. should be made optional and used only on cases of special concern.
2. Other special education programs should be screened to see if some of these children might qualify for the learning disabilities program who might have been placed in the other special program before the learning disability program was established.

Program

There is general vagueness about the nature and content of the special program. While this is natural in a program stressing individual needs, there should be some attempt to show specific alternative strategies.

1. Attempts should be made to provide wider distribution of established teaching methods and techniques to deal with these learning disabled children.
2. More extensive use of consultants (in state and out of state) with special expertise in this field should be utilized in training and consultation.
3. The State Department of Public Instruction is urged to provide more definitive guidelines and directions for the program. In particular, there is a real need for distinctions to be drawn between this program and remedial reading, speech and language therapy, etc.

Evaluation

One of the marks of a maturing program is the development of a systematic data collection that can insure some degree of quality control and establish a solid base for future planning. Two questions need to be answered by the data system; (1) What is happening in the learning disabilities program? and (2) What are the beneficial results that can be documented? We would recommend the following:

1. The development of a management information system that would collect routine data on children and teachers in the program, the nature of the program and various management issues of concern to the school. A small sum of money should be added to teacher allotments to aid local school districts in implementing such a system.
2. A set of impact studies should be contracted for by the State Department of Education to delineate the positive (and negative) impact of the program on children and schools. Such studies need not be statewide but would sample some of the programs to determine what the impact is. Both standardized and unstandardized measures should be included in such studies to gain the fullest possible portrait.

Communication

A glaring area of neglect is dissemination of information about the field of learning disabilities. Information concerned with national trends and practices as well as noteworthy local activities is needed by persons working directly or indirectly in the field, e.g., regular classroom teachers, learning disabilities specialists, supervisors, principals, and consultants.

The general flow of communications between SDPI and school administration needs major improvements. It was noted by a number of principals that many communications bypass them and other administrative personnel and transpire directly between the learning disabilities specialist and representatives of the State. The importance of the entire local unit to the success of the

learning disabilities program cannot be over-emphasized. For this reason, among others, communication systems between and among school systems and between the State and local units must be given immediate attention.

Despite the efforts of the Division of Exceptional Children to provide various mechanisms for information dissemination among the program units, there is a manifest need to strengthen that part of the program. Many learning disabilities personnel complain of the feeling of being isolated and alone and needing to communicate.

1. It is recommended that various avenues be explored to establish regular and routine communication between state department and learning disability teachers and other interested educators. Such a device could be, for example, a newsletter that would announce new sources of instructional techniques, descriptions of programs in the State, abstract relevant professional articles, etc.
2. It is further recommended that the Division of Exceptional Children establish an advisory committee to the Learning Disability Program. This committee could give counsel and advice on major program directions and feedback to the State leadership with information on how the program is progressing. Such an advisory group should have teacher and parent representation as well as the traditional administrative and college personnel.